

BHARATHIAR UNIVERSITY: COIMBATORE-641046
CENTRE FOR COLLABORATION OF INDUSTRY AND INSTITUTION (CCII)
B.Sc. Animation Technology
(For the CCII students admitted from the academic year 2015-16 onwards)
SCHEME OF EXAMINATION – CBCS PATTERN

Parts	Course Title	Inst. Hrs / Week	Marks				Credit
			Dur. hrs	CIA	Marks	Total Marks	
Semester -1							
Part 1	Tamil/Hindi/French -I	6	3	25	75	100	4
Part 2	English-I	6	3	25	75	100	4
Part 3	Core 1:Computer Fundamentals	3	3	25	75	100	4
	Core 2: Drawing Concept & Color Theory	3	3	25	75	100	4
	Core 3: Digital Imaging	3	3	25	75	100	4
	Allied 1: Pre-Production	3	3	25	75	100	4
	Practical 1: Vector Drawing Using Computer	3	3	40	60	100	4
	Practical 2: Digital Imaging Using Photoshop	3	3	40	60	100	4
Part 4	Environmental Studies #	2	3	50		50	2
Semester – 2							
Part 1	Tamil/Hindi/French -II	6	3	25	75	100	4
Part 2	English-II	6	3	25	75	100	4
Part 3	Core 4: Communicative English	4	3	25	75	100	4
	Core 5: 2D Animation	3	3	25	75	100	4
	Allied 2: Principles of Animation, Media laws & ethics	3	3	25	75	100	4
	Practical 3: 2D Animation Using Flash	3	3	40	60	100	4
	Practical 4: Interactivity Animation Using Action script	3	3	40	60	100	4
Part 4	Value Education – Human Rights #	2	3	-	50	50	2
Semester – 3							
Part 3	Core 6: Introduction to 3Ds Max and Maya	5	3	25	75	100	4

	Core 7: 3D Modeling and Animation	5	3	25	75	100	4
Part 4	Skill based 1: Anatomy for Animation	5	3	25	75	100	4
Part 3	Allied 3 - Practical: Photography	5	3	40	60	100	4
	Practical 5: 3D Modeling using 3Ds Max	4	3	40	60	100	4
	Practical 6: Lighting & Texturing Using 3Ds Max	4	3	40	60	100	4
Part 4	Tamil @ / Advanced Tamil # (or) Non-major Elective-I: Yoga for Human Excellence # / Women's Rights # / Constitution of India#	2	3	50		50	2
Semester – 4							
Part 3	Core 8: 3D Rigging	6	3	25	75	100	4
	Core 9: 3D Modeling & Texturing in Maya	6	3	25	75	100	4
Part 4	Skill Based 2: Introduction of New Media	6	3	25	75	100	4
Part 3	Practical 7: 3D Modeling using Maya	5	3	40	60	100	4
	Allied 4 - Practical: Lighting & Texturing Using Maya	5	3	40	60	100	4
Part 4	Tamil @ / Advanced Tamil # (or) Non-major Elective-II: General Awareness #	2	3	50		50	2
Semester – 5							
Part 3	Core 10: Video Editing	6	3	25	75	100	4
	Core 11: Compositing	6	3	25	75	100	4
	Skill based 3: Visual effects	6	3	25	75	100	4
	Practical 8: Video Editing and Compositing	6	3	40	60	100	4
	Practical 9: Visual Effects	6	3	40	60	100	4
Semester – 6							
	Project Specialization	-	-	-	-	200*	8
Total						3500	140

\$ Includes 25% / 40% continuous internal assessment marks for theory and practical papers respectively.

@ No University Examinations. Only Continuous Internal Assessment (CIA)

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* For Project 80% marks and Viva-Voce 20% marks.

Subject	Core 1 : Computer Fundamentals
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Objective

At the end of the program the students will be able to understand the fundamentals Of Computer

Unit-1

Overview Of Computer – Computer applications- Generations-Types of computer- Components of Computer

Unit -2

Central Processing Unit – Memory Management-Types of Memory –Ram –ROM –Memory Units, Machine language, cache memory.

Unit -3

Basic Parts of Computer -Computer Input and Output Devices – Ports of Computer –Computer hardware's and software's, Types of Operating System, Communication Software.

Unit -4

Digital Computer and Digital Systems – Binary Numbers – Number Base Conversion – Octal and Hexa Decimal Numbers – Complements – Binary Coders.

Unit-5

Overview Operating –History of Dos and UNIX –Process states –Process State Translations- User and System point view.

Reference Books

1. Morris Mano, “ Digital Logic and Computer Design” – Prentice Hall of India – 1998.
2. Morris Mano, “Computer System Architecture” – Prentice Hall of India – 1998
3. Thomas C. Bartee, “Computer Architecture and Logical Design” McGraw Hill International Edition 1998.
4. John P Hayes, “Computer Architecture and Organization” – McGraw Hill

Subject	Core 2: Drawing Concept & Color Theory
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Course Goals:

The primary goal of this course is to obtain a good match across color devices. Course Activities and Schedule:

UNIT: 1

Colour balance - Properties of colour – Hue - Reflective Value – Tint – Shade – Colour tone - Intensity - Colour in terms of weight – Sub ordinate colour - Colour scheme .

UNIT: 2

Colour domination - Colours for elements - Exterior paint colours - Cool colours - Warm colours - Colour personality - Proportion, contrast and effects with colour.

UNIT: 3

Colour swatches – Colour Charts - Safety Colours& Industrial Identification - Additive Colour System (RGB) - Subtractive Colour System (CMYK).

UNIT: 4

Create your own colour - Sponging: creation of a gently mottled or cloud-like effect with harmonizing colours – Colour washing: creation of soft dappled effects and striking contrasts of diluted colour - Rag rolling adds subtle or bold textured effects reminiscent of marble and crushed velvet - Dragging creates a finely striped effect often associated with antiques.

UNIT: 5

General guides to colourself help - Colours for living and learning - Provide helpful and professional advice on colour selection.

Reference Book:

Faber Birren's, the Elements of Color, Color and Human Response.

Subject	Core 3: Digital Imaging
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Unit - I

Interface overview - Color Correction - Layer Blends - Resolution- Masking- Application of all above.

Unit - II

Familiarity with the color tools- contrast –levels-brightness - contrast under image menu - Match color- Duotone-Replace Color-Hue & Saturation- Retouching (intermediate) – change replace and match BG and color

Unit - III

Blends styles (intermediate)- create layers- name the layers- arranging works in separate layers while working on a project/design - change layer styles Using the Styles Panel- handling pen tool

Unit - IV

Masking techniques (intermediate) – intermediate selection commands - Editing palette – understanding parameters - short cuts using Quick Mask mode- familiarizing vector paths- improving Tracing speed.

Unit - V

Webpage layout- Header banner Design – Design aesthetics- layouts- Poster Layout Design – collage - inputting Text - Adding Title - Matte painting for webpage – creating webpages to suit client needs.

REFERENCE:

Photoshop book for Digital Photographers - Scott Kelby

Subject	Allied 1:Pre Production
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Course Description:

Pre-production refers to the tasks that must be completed or executed before filming or shooting begins. This includes tasks such as hiring actors or models, building sets, budgeting, planning, scheduling, renting equipment and tests, to name a few of the many pre-production tasks.

UNIT: 1

Development backbone – Identifying needs and research -Visualize your project’s Look - Collect images that inspire you visually.

UNIT: 2

Review Process and Pre- Production Schedule - Constant communication - Content decisions incrementally throughout all stages of production - Maximum efficiency and identify unforeseen and time-consuming changes.

UNIT: 3

Find and Secure Location - Available light in the location - Size of the location – Cause of sound issues – Casting - Make sure your posting / flyer contains relevant info about the roles you are casting (include age, physical characteristics) short blurb describing character, date /time / length of audition, materials that need to be prepared (such as monologue), your contact info, shoot timeframe, remuneration - Local casting resources - Videotape auditions if possible.

UNIT: 4

Production Design - Film’s theme - Mood progressions - Kind of location should each sequence have - Color palette and progression that promote the film’s thematic development - Prepare costumes, props, set dressing.

UNIT: 5

Make a Floor plan - Lighting plot for each Location – Outline and Scripts - Break down, shooting script - Accurate and effective script that engages your audience - Make a Storyboard - Composition of the scenes, the position of the camera, the story’s theme and characters.

Reference Book

The Five C's of Cinematography: Motion Picture Filming Techniques, by Joseph V. Mascelli

Subject	Practical 1: Vector Drawing Using Computer
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1. Create an object using basic shapes
2. Create and edit clone shapes
3. Trace an image using pentool
4. Create a colourful logo
5. Create a word art with 3D effects
6. Create a brochure or flier
7. Draw a realistic illustration
8. Draw an environment with colors and lights
9. Create a banner for print media
10. Save files in different formats

Subject	Practical 2: Digital Imaging Using Photoshop
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1. Create a location using Matte painting technique
2. Recreate an old damage image
3. Convert a grey scale image into a colored one
4. Create a digital photo manipulation image
5. Create a low poly portrait
6. Create a web template
7. Create a pamphlet or brochure
8. Create a typography art
9. Draw a realistic portrait using brush
10. Create and design an advanced Photo manipulation 2

Semester	2
Subject	Core 4:Communicative English

Course Description:

Language English develops the ability to communicate clearly, accurately and effectively in both speech and writing. Students learn how to employ a wide-ranging vocabulary, use correct grammar, spelling and punctuation, and develop a personal style and an awareness of the audience being addressed.

Course Goals:

Enable students to communicate accurately, appropriately and effectively in speech and writing.

UNIT: 1

Match an oral description to a picture - Follow oral instructions given in familiar everyday situations - Understand classmates when they exchange personal information and speak about familiar topics - Distinguish different meanings marked by stress and intonation - Recognize the speaker's intentions as revealed through the tone - Follow descriptions which are complex in terms of linguistic, thematic and lexical content, e.g. television documentaries.

UNIT: 2

Rephrase information - Describe people including themselves, familiar topics, places and objects in detail - Tell a story in a simple sequence of events - Talk about own skills and abilities - Give a short presentation on a familiar topic that they have prepared in advance - Describe personal events and activities - Express future plans - Describe possessions and everyday items - Explain a viewpoint on a topical issue, e.g. global warming, and elaborate on different aspects of the issue.

UNIT: 3

Participate in short, structured dialogues on familiar topics of interest in the classroom and in other situations where English is required - Use basic interjections, e.g. Wow, Hey, Oh dear, Cheers appropriately - Give simple directions and instructions, e.g. how to get somewhere by using a plan or a map - Participate in lengthy conversations about a variety of topics of general interest and express their point of view - Identify and understand a wider range of text types in terms of literal meaning and inference - Identify different layers of meaning and understand their significance and effect.

UNIT: 4

Use punctuation correctly, in particular the capital letter, comma, full stop, question mark, apostrophe - nouns: singular and plural (regular and irregular) - pronouns: personal – adjectives - Use the definite and indefinite article: the, a, an - identify and use the following tenses - simple

present - present continuous - simple past (regular and irregular verbs) - Form the interrogative with - verbs: to be, to have, to do - relative pronouns: who, what, where, when, why, how - Write statements in the affirmative and negative (including contractions) - Use the possessive - Use the affirmative and the negative form of the imperative - Produce compound and complex sentences - Use adverbs of time and place - Use punctuation correctly -in particular the semi-colon, colon, parenthesis, dash and hyphen - Use quantifiers, e.g. much, many, a lot of, plenty, a few, little, a little, several - Use prepositions of time, e.g. until, since, for, during, after, before, while - Use nouns - used only in the singular, e.g. news, athletics, physics - used only in the plural, e.g. jeans, trousers - Use link words in - summing up, e.g. therefore, so, to conclude - comparing and contrasting, e.g. the same as, even more important, however, on the other hand - Identify the infinitive form - the present perfect simple - the past perfect simple - the simple present and present continuous with future time reference - Know when to use, make and do.

UNIT: 5

Use link words, e.g. furthermore, not only...but also, for instance, however, yet, either...or, whether...or, one or the other, namely, supposing - Use modal verbs: can, could, must (had to), shall, should, will, would, may, might in the affirmative, negative and interrogative forms - Use the passive - Use the following tenses - present perfect continuous - past perfect continuous - Use -ing and -ed clauses as in - Use affixes - negative suffixes -less - negative prefixes: il-, im-, in-, ir-, dis-, mis-, un.- change from direct to indirect/reported speech and from indirect/reported to direct speech - Use adverbs (in the comparative and superlative form) - Use adverbs of probability / degrees of certainty.

Reference Book

- Effective english communication: by krishnamohan
- Learning English: A Communicative Approach - Board of Editors

Subject	Core 5:2D Animation
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Course Description:

This program encourages individualism and brings student's creativity to the next level.

Course Goals: An introduction to the practice, theory, and history of animation within art and independent media through labs, lecture, readings and project critiques.

UNIT – 1 Digital 2D Animation orientation – Basic factors affecting the illusion of motion – Impact of digital techniques on the craft of film and video animation – Professional animation practice and job description – Prevailing file format standards and other compatibility issues – History and future trends of computer animation application in the visual arts.

UNIT – 2 2D animation application software interface – Default setting and user preferences – Document setup. Import and export formats – Document and timeline window feature – Tools and commands palettes – Media-selection tools and techniques - Asset-management features.

UNIT – 3 2D graphics-creation features – Underlying data type: raster – vector – Raster painting and/or import features – Vector shapes – Vector free-form and control-point Placement tools – Features specific to the program in use.

UNIT – 4 2D graphics editing features – Basic geometric transformation – Boolean Operations on shapes – Object stroke attributes – Object fill attributes – Shading Techniques (blends – gradients) – Packaged effects (extensions – Plug-ins) – Features Specific to the program in use.

UNIT – 5 2D animation frame-sequencing features – Straight-ahead animation – Key Frames animation – Motion paths – Applying geometric transformations over time – Intertwining options – Looping and motion – Features specific to the program in use.

Suggested books for Reading:

- Cartoon Animation (How to Draw and Paint series) by Preston Blair.
- Adobe Flash CS3
- The Animator's Survival Kit: A Manual of Methods, Principles, and Formulas for Classical, Computer, Games, Stop Motion, and Internet Animators by Richard Williams .

Subject	Allied 2: Principles of Animation, Media laws & ethics
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Course Description:

Introduction to basic principles of computer generated animation, simply called as CGI or CG. In this course students will develop an understanding of the legal and ethical issues that frame media production and consumption.

Course Goals:

Provide students with skills, knowledge and understanding to recognize, articulate and discuss current legal and ethical issues in the media using a range of frameworks through which the media is regulated, Introduce students to kinds of reasoning and judgment in resolving some of the tensions between regulation and freedom of the media.

Unit – 1:

History of Animation – Introduction to Animation - Terms used in Animation – Types of Animation - Skills for Animation Artist, Squash and Stretch, Anticipation, Pose to Pose, Timing, Solid drawing.

Unit -2

Basic Principles of Animation - Animator's Drawing Tools - Rapid Sketching & Drawing- Developing Animation Character - Essentials & qualities of good animation characters

Unit - 3

Overview of Media Trends – Mass Media and the Imperative of Law and Ethics - Understanding Laws –Understanding Ethics - Mass Media Roles within the Scope of Law and Ethics - Media Regulation

Unit -4

Media Laws: Intellectual and Institutional- Copyright- New Media- Protection of News Sources- Reports of Parliamentary

Unit -5

Ethical Principles of Mass Media Regulation - Ethical Issues in Mass Communication - Regulatory Institutions

Reference Book

The Animator's Survival Kit - Richard Williams

Subject	Practical 3: 2D Animation Using Flash
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- 1.Trace an image using basic drawing tools
- 2.Create a bouncing ball animation using keyframe technique
- 3.Create a globe revolving animation using mask technique
- 4.Create a web banner and create control buttons
- 5.Create a character walk cycle
- 6.Create a camera pan and zoom animation in a scene
- 7.Create facial expressions for a character
8. Create multiple character animation for combining tween and key frame animation
- 9.Create a characterlip sync using audio
- 10.Complete a short animated movie

Subject	Practical 4: Interactivity Animation Using Action script
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- 1.Create basic movie control
- 2.Create a mouse drag
- 3.Create a live clock
- 4.Create a Rotating letter effects in texts
- 5.Create and assign keyboard controls
- 6.Create and write a program to load different media files
- 7.Create a login page using action script 3.0
- 8.Create and repeat multiple animations using action script 3.0
- 9.Create an interactive website
- 10.Create a 360 grand view

Semester	3
Subject	Skill Based 1:Anatomy for Animation

UNIT - 1

Introductory concepts to basic techniques in Animation, Introduction of anatomy, Proportion of anatomy

UNIT – 2

Head - Frontal Bone – Temporal Bone – Orbit Bone – MALAR Bone – Mandible Bone – Maxilla Bone – Lower Jaw Bone – Mastoid Bone

UNIT – 3

Hand – Humorous Bone – Ulna Bone – Radius Bone – Carpals Bone – Meta Carpals Bone – Trachea Bone – Inner Cornville Bone – Outer Cornville Bone – Sternum.

UNIT –4

Leg – Great Trochanter – Small Trochanter – Pub avis Bone – Isocheim Bone – Serum Bone – Trivia Bone - Tarsal Bone – Meta Tarsal Bone – Phalanges Bone – Oscalcus Bone

UNIT -5

Animal Anatomy Introduction, Basic Body Plan -Individual Muscles, Four-Legged Animals, Animal with Limb Variation, Miscellaneous animal, Bird

Reference Book:

Anatomy-A Complete Guide for Artists

Subject	Core 6:Introduction to 3Ds MAX and Maya
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UNIT – I:

Exploring the interface, controlling the viewports, working with files

UNIT – II:

Creating and editing primitive objects, Selecting Objects and using Layers
Transforming objects, pivoting, aligning and snapping

UNIY – III:

Cloning objects and creating objects, Grouping linking and parenting objects
Maya Introduction

UNIT – IV:

Maya Interface Overview, File Referencing, Working with files, Materials and Maps

UNIT -V :

Workflow - Modeling - Texturing – Camera and Lightning - Rigging Dynamic animation-
Rendring

Reference Books:-

3D Max Bible and Maya Bible

- Mastering 3D Animation , by Peter Ratner (Author)
- Autodesk Maya, 2011

Subject	Core7:3D MODELING AND ANIMATION
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Course Description

This course introduces fundamental 3D theories and principles of computer modeling and animation.

Course Goals:

This unit aims to introduce students to the principles and basic techniques of 3D Modeling and Animation

UNIT – 1

Modeling methods – Modeling with Primitives – Planning your Model – Deforming Lattices, Wire or Cluster.

UNIT – 2

Extrusion – Object duplication – Pivots and CV Surfaces – The Production Process – Complex Model Hierarchy.

UNIT – 3

Complexities over various Modeling Techniques – Purpose and Modeler Dependency - Hardware and Software Considerations.

UNIT – 4

Basic Animation – Animation Types – Key frame Animation – Understanding Animation workflow.

UNIT – 5

Animation Techniques – Non – Linear and Character Animation – Posing, Timing and Refining – Working with Poses.

Suggested books for Reading:

- The Animator's Survival Kit: A Manual of Methods, Principles, and Formulas for Classical, Computer, Games, Stop Motion, and Internet Animators by Richard Williams
- Mastering 3D Animation , by Peter Ratner (Author)

Semester	2
Subject	Allied 3: Photography

Still Life, Portrait, Children, Silhouette, Rim Lighting, Product – Indoor and Outdoor, Advertising Photography, Architecture – Interior and Exterior, Industrial Photography, Photographs on Human Interest, Photographs on Foods and Beverage, Wild Life Photography, Multiple Exposures, Photo Essay on Developmental activities

Semester	3
Subject	Practical 5: 3D Modeling using 3Ds Max

1. Create a model using basic geometric shapes
2. Create a musical instrument
3. Create a car model
4. Create an interior
5. Create an interior and exterior for walk through
6. Create a mechanical parts with proper dimensions
7. Create a semi realistic face model
8. Create a realistic face model
9. Create comical character with less mesh
10. Create a human model with proper anatomy

Semester	3
Subject	Practical 6:Lighting& Texturing Using 3Ds Max

1. Apply a Rubix cube basic Color texturing using default color
2. Bitmap texturing using image
3. Texturing a scene with default mental ray
4. Texture a shiny cloth using mental ray for curtains
5. Texture a scene with V-ray
6. Create a lighting for a interior using v-ray
7. Create lighting using environment map
8. Create three point lighting for an object with shadow effects
9. Create IES light for an interior
10. Create studio setup light with V-ray

Semester	4
Subject	Core 8 : 3D Rigging

Unit – I (FUNDAMENTALS)

Rigging Concepts – Rigging Tools – Techniques - Rigging for animating a mechanical character
- Brief description about importance of rigging a character or an object - Constraints

Unit – II (INTERMEDIATE LEVEL)

Robot Rigging – Analyzing mesh flow - Joints - Orientation axis - Ik Handles creation -
Grouping - Attributes Creation – Controls creation – Parenting – Fine Tuning

Unit – III

Vehicle Rigging - Analyzing Vehicle movements - Joints Creation - Orientation Axis -
Attributes Creation – Expressions - Controls Creation - Rigid Binding – Fine Tuning

Unit – IV (ADVANCED LEVEL)

High poly rig - Biped Rigging (Character Rigging) – Analyzing Mesh Flow - Joints Creation -
IK Attributes creation - FKIK Switching - Controls creation - Skinning - Skinning Tools &
Techniques - Binding - Fine Tuning.

Unit - V

High poly rig - Quadruped Rigging – Analyzing character movements - Analyzing Mesh Flow -
Joints Creation – FKIK - Controls creation Skinning - Binding - Fine Tuning Influences.

REFERENCE

An Essential introduction to Maya Character Rigging - Cheryl Cabrera

Subject	Core 9:3D Modeling and Texturing in Maya
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Unit – I (MODELING FUNDAMENTALS)

Introduction to modeling,- Maya Interface, Maya Tools for modeling - Nurbs modeling - Surface and polygon formation requirements - Space Ship Modeling.

Unit – II (INTERMEDIATE MODELING)

Introduction to Curve tools - Car Modeling - Guitar Modeling - Sword Modeling - Nurbs to Polygon-Structure Detail- Nurbs component – Fine tuning Car Model.

Unit – III

Interior Modeling - Detail work flow on polygon items-Polygon Tools Split Polygon Tool,-Insert Edge Tool-Cutface Tool-Extrude face/edge-Create models like Sofa, chair, Lights, Screen etc

Unit – IV (FUNDAMENTALS)

Unwrapping - Maya Maps - Projection methods - Utilizing the UV texture editor & interactive editing its positions in view port & its main attributes to control mapping areas over objects.

Unit - V (INTERMEDIATE LEVEL)

UV map coordination - UV Texture layout - Merging UV's – UV uniformities - Stretching UVs to fit in grid - aligning UV's in grid.

REFERENCE

Stop Staring: Facial Modeling and Animation Done Right - Jason Osipa
Texturing and Modeling : A Procedural Approach - David S. Ebert

Subject	Skill Based 2 : Introduction of New Media
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Course Description:

New media refers to various technologies that have emerged or seen rapid growth on a global scale during the latter part of the 20th century and into the new millennium.

Course Goals: Enable students to update their Knowledge about the rapid growth of various technologies.

UNIT: 1

Introduction to New Media - Print media - Print Timeline -History and Modern printing technology - Impact of the invention of printing - Broadcasting - Broadcast Timeline - Forms of electronic broadcasting - Economic models – Social impacts - Recorded broadcasts and live broadcasts.

UNIT: 2

Internet media type - Birth of the Internet – Modern uses and technology - Social impacts – Interactivity Characteristics.

UNIT: 3

New Media for Journalists– Example of Social Media – Communication - Social Networking – Blogs and Micro Blogging – Events - Collaboration, Multimedia, Reviews and opinions, Entertainment.

UNIT: 4

Media Convergence - Past Days of Communications – Convergence regulations - Web 2.0 – Origins - Characteristics - Technology overview.

UNIT: 5

The Google Phenomenon - Google and Wi-Fi - What Google should do - Might and responsibility.

Suggested Books for Reading:

- Web Analytics 2.0: The Art of Online Accountability and Science of Customer Centricity, by AvinashKaushik
- Socialnomics:How Social Media Transforms the Way We Live and Do Business, by Erik Qualman
- Digital Body Language, by Steven Woods

Subject	Practical 7: 3D Modeling using Maya
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1. Create a model using basic geometric shapes
2. Create a musical instrument
3. Create a car model
4. Create an interior
5. Create an interior and exterior for walk through
6. Create a mechanical parts with proper dimensions
7. Create a semi realistic face model
8. Create a realistic face model
9. Create comical character with less mesh
10. Create a human model with proper anatomy

Subject	Allied 4 (Practical): Lighting & Texturing Using Maya
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1. Create a lighting for a interior using v-ray
2. Create lighting using environment map
3. Create three point lighting for an object with shadow effects
4. Create a different room light and natural light
5. Create studio setup light with V-ray
6. Create basic Color texturing using default color
7. Bitmap texturing using image
8. Texturing a scene with basic material types
9. Apply texture and correct layered shader, shading Map, Surface shader and use background
10. Assign glass texture and chrome texture to two individual objects

Semester	5
Subject	Core 10: Video Editing

Unit – I

History of film editing – continuity – montage- proper cuts- framing shots-camera angles- camera movement-180 degree rule

Unit – II

Types of editing – film splicing- tape to tape- live editing- Film Grammar – Formats and standards – understanding compression ratios – field – interlaced video- HDTV SDTV – progressive scan - resolutions

Unit – III

Introduction to Premier pro and Final cut pro – working with tools – timeline – advanced palettes- working with effects – effects and rendering mechanism.

Unit - IV

Video and Animation editing – handling 2D, 3D and video clips - Composite Editing (Multilayer) – rendering multilayer composite shots – playing out and fine tuning

Unit – V

Advanced color Correction - understanding formats before beginning- Final rendering advanced edits - rendering for films- Online rendering – effective showreel editing

REFERENCE

The Technique of Film and Video Editing, Fourth Edition: History, Theory, and

Practice - Ken Dancyger

Subject	Core 11: Compositing
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Unit_01

Shooting a chroma shot - Types of keying - keying with after effects – making composites using keyers – advance rotoscoping techniques

Unit_02

Motion tracking – combining elements – stabilizing footage – animating effects- animating still image – one point tracking – two point tracking – 4 point tracking

Unit_03

Creating title sequence – steps to follow- adjustment layers – matted layers- foreground elements- adjusting colors and levels- adding craziness – effects – using Motion sketch – adding final title

Unit_04

Wire removal- frame by frame- patching over the top- stabilize and paint back- creating clean plate – using paint tool- roto clone tools/ source nodes - chroma keying- color correction methods.

Unit_05

Advanced Compositing – passes – order and setting of passes- using geometry matte – compositing 3D rendered layers – multi layer compositing process

REFERENCE

Art & Science of Digital Compositing - Ron brinkmann

Subject	Skill Based 3: Visual Effects
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Course Description

This course will prepare the learners to design and execute compositing in Visual Effects using digital electronic media.

Course Goals:

Aim of the Course is to develop the students in a core set of technical and creative skills related to digital filmmaking.

UNIT – 1

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

UNIT-2

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

UNIT-3

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

UNIT-4

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

UNIT-5 Visual Effects Tool and advanced functions– Converting images from 2D to 3D Pictures - Creating 3D Effects- Differentiation 2D effects and 3D effects.

Suggested books for Reading:

- The Invisible Art by Mark Cotta Vaz
- Visual Effects Cinematography [Paperback] ZoranPerisic (Author)
- Industrial Light & Magic: The Art of Special Effects by Thomas G. Smith
- The Art and Science of Digital Compositing (The Morgan Kaufmann Series in Computer Graphics) by Ron Brinkmann

Subject	Practical 8: Video Editing and Compositing
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1. Create a video fusion
2. Create a composition using png, targa sequence
3. Add multiple clips and combine
4. Add pre-set video transitions
5. Add time warp and time transition to a video
6. Add multiple effects to a video
7. Remove matte screen using chroma key
8. Add/ remove audio using audio properties
9. Convert a raw video into a new color scene using color correction techniques
10. Render and save output in different formats

Subject	Practical 9: Visual effects
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1. Create a fusion video
2. Merge multiple clips using mask techniques
3. Create and combine clips using video transitions
4. Add effects using pre-set effects
5. Rig and animate a character using puppet
6. Create fire effect using simulation particles
7. Track camera action scene
8. Cut and isolate a part in a movie using rotoscoping
9. Remove matte background using matte key
10. Create a complete animation project of your own

Course	BSc Animation Technology
Effective from	2015-2016 and Onwards
Semester	6
Subject	PROJECT : SPECIALIZATIONS