

**REGULATIONS AND SYLLABUS
FOR
B. SC IN ANIMATION TECHNOLOGY
(THREE YEARS)**

Offered by

**BHARATHIAR UNIVERSITY, COIMBATORE
FROM 2012 – 2013**

Under the

**CENTRE FOR COLLABORATION OF
INDUSTRY AND INSTITUTIONS (CCII)
COLLABORATIVE PROGRAMME**

B.Sc., in Animation Technology

REGULATIONS AND SYLLABUS

REGULATIONS

1. Description of Course/Objective of the Course

This course is designed to prepare technicians with specialized skills, knowledge and attitude to work in Animation field. The program will be conducted at any Amaze Multimedia Centre recognized by Bharathiar University under the CCII Collaborative Program.

2. Eligibility

- Candidates those who are passed in 10+2 Examination/PUC (11+1)/Equivalent Examination thereto, recognized by Bharathiar University.
- Candidates those who are passed in 10+2 Examination/PUC (11+1)/Equivalent Examination in addition to the above who have passed Diploma in Animation Technology shall directly admitted in II year of this course (Lateral Entry).

3. Duration of the Course: 3 Years (Annual Pattern)

4. Courses and Scheme of Examination

I – Year:

Part	Paper No.	Course Title	University Examination	
			Internal	External
Part I	*PAPER 1	TAMIL / HINDI / FRENCH	40	60
Part II	*PAPER 1	ENGLISH	40	60
Part III	THEORY PAPER 1	INTRODUCTION TO NEW MEDIA (THEORY)	40	60
	THEORY PAPER 2	PRE PRODUCTION (THEORY)	40	60
	THEORY PAPER 3	COMMUNICATIVE ENGLISH (THEORY)	40	60
	THEORY PAPER 4	UNDERSTANDING COLOURS (THEORY)	40	60
	PRACTICAL PAPER 1	DRAWING AND COMPOSITION (PRACTICAL)	40	60
	PRACTICAL PAPER 2	DIGITAL IMAGING (PRACTICAL)	40	60
	PRACTICAL PAPER 3	BASICS OF 2D ANIMATION (PRACTICAL)	40	60

II- Year:

Part	Paper No.	Course Title	University Examination	
			Internal	External
Part I	*PAPER 2	TAMIL / HINDI / FRENCH	40	60
Part II	*PAPER 2	ENGLISH	40	60
Part III	THEORY PAPER 5	COMPUTER ANIMATION (THEORY)	40	60
	THEORY PAPER 6	2D ANIMATION (THEORY)	40	60
	THEORY PAPER 7	3D MODELING AND ANIMATION (THEORY)	40	60
	THEORY PAPER 8	VISUAL EFFECTS (THEORY)	40	60
	PRACTICAL PAPER 4	ADVANCED DIGITAL GRAPHICS (PRACTICAL)	40	60
	PRACTICAL PAPER 5	ADVANCED 2D ANIMATION (PRACTICAL)	40	60
	PRACTICAL PAPER 6	INTRODUCTION TO 3D SPACE LEVEL (PRACTICAL)	40	60

III- Year:

Part	Paper No.	Course Title	University Examination	
			Internal	External
Part III	THEORY PAPER 9	MEDIA MANAGEMENT (THEORY)	40	60
	THEORY PAPER 10	MEDIA AESTHETICS (THEORY)	40	60

	PAPER 11: ELECTIVE THEORY	a) ELECTIVE PAPER: 1: SPECIALIZATION IN 3D PRODUCTION AND VISUAL EFFECTS PRODUCTION (THEORY) (OR) b) ELECTIVE PAPER: 2: SPECIALIZATION IN 3D PRODUCTION – GAME ART AND DESIGN (THEORY)	40	60
	PRACTICAL PAPER 7	NON LINEAR EDITING AND DIGITAL COMPOSITING (PRACTICAL)	40	60
	PRACTICAL PAPER 8	<u>PRACTICAL – SPECIALIZATION IN 3D PRODUCTION :</u> SPECIALIZATION:1: CHARACTER MODELING AND ANIMATION (PRACTICAL) (OR) SPECIALIZATION:2: LIGHTING AND RENDERING (PRACTICAL) (OR) SPECIALIZATION:3: DYNAMIC PARTICLE ILLUSION (PRACTICAL)	40	60
	PROJECT 1	FINAL PROJECT – PORTFOLIO DEVELOPMENT	100	200

*School of Distance Education Syllabus shall be followed for Part I (Language) & Part II (English).

5. Practical Training

Being a practical oriented program, the focus will be more on practical training. The candidate shall undergo practical training in the computer laboratory of Amaze Multimedia or other computer laboratories of Bharathiar University affiliated institutions.

6. Requirement to appear for examination

Candidates should put in a minimum of 90% attendance to appear for the examinations.

7. Passing minimum

A candidate shall secure a minimum of 40% in the University examination for practical and theory and overall 40% in each of the paper (Internal + External) to pass the examination. A candidate failing in any one of the component has to reappear for that particular component in the supplementary examinations.

8. Classification of Successful candidate

- A candidate who obtains 75% and above, aggregate in theory and practical examinations, in the first attempt shall be deemed to have passed the examination with Distinction.
- A candidate who obtains from 60% to 74% of the aggregate in theory and practical examinations, in the first attempt shall be deemed to have passed the examination in the First class.
- Other Successful candidates shall be declared to have passed the examination in the Second class.

9. Conferment of degree

A candidate who has passed all the examination as prescribed shall be eligible to receive the “**B.Sc., in Animation Technology**” from Bharathiar University.

10. Course Material

Course Material shall be supplied by Amaze Multimedia.

11. Revision of Regulation and Syllabus

The syllabus and regulations of the courses are subject to modification by the University whenever necessary.

12. Question Paper Pattern

Theory examination will be for 100 marks with the following components which will be converted into 60 marks.

- Multiple Choice / One word answers: 20x1=20 marks (no choice)
- Short notes (100 words / one paragraph): 5x6=30 marks (either/or type)
- Descriptive (300 words / 1 ½ page): 5x10=50 marks (either/or type)

SYLLABUS FOR 1st YEAR

PART – I

PAPER: I : TAMIL

School of Distance Education Syllabus shall be followed for Part I Paper I Tamil.

(See in the Last Pages of the Syllabus in pdf format)

PART – I

PAPER: I : FRENCH

Prescribed text : CAMPUS I
Units : 1-6
Authors : Jacky Girardet, Jacques Pécheur
Available at : Goyal Publishers Pvt Ltd 86,
University Block Jawahar Nagar
New Delhi – 110007.
Tel : 011 – 23858362 / 23858983

**School of Distance Education Syllabus shall be followed.*

PART – I

PAPER: I : HINDI

Books Prescribed:

1. PROSE : Noothan Gadya Sangrah

Editor: Jaiprakah M.A

(Except 7,8)

Publisher : Sumithra Prakashan

16/4 Hasting Road,

Opp. Babuguna Market, Allahabad - 211 001

2. Non detailed text : PRATINIDHI KATHAMALA

Editor : Markandeya

(Except 9,10,11)

Publisher : Lok Bharathi Prakashan

15A/ Mahatma Gandhi Marg

Allahabad -1

3. Novel : Aapka Banti

by Manna Bhandari

Publisher : Rajkamal Prakashan

Dharya Ganj

New Delhi -2

4. Translation : HINDI TO ENGLISH ONLY

ANUVAD ABHYAS III

by : Dakshin Bharat Hindi Prachar Sabha

Chennai – 600 017

5. Letter Writing : Personal Letter, Application for leave/

Application for job, letter to the publisher.

Book for Reference : PRAMANIK AALEKHAN AURTIPPAN

by; Prof. Viraj M.A

Publisher : Rajpal and Son,

Kashmiri Gate

Delhi – 110 006.

**School of Distance Education Syllabus shall be followed.*

PART – II

PAPER: I : ENGLISH

Course Activities and Schedule:

UNIT 1 – PROSE

1. The Golden Touch (Midas touch)
2. The Selfish Giant
3. Lalajee
4. Face of Judas Iscariot
5. Cinderella

UNIT 2 – POETRY

1. Lucy Gray
2. Matilda
3. The Ballad of Father Gilligan
4. Laugh and Be Merry
5. Incident of the French Camp

UNIT 3 – SHORT STORIES

1. A Day’s Wait
2. The Tattered Blanket
3. The Eyes Are Not There

UNIT 4 – ONE ACT PLAYS

1. The Informer
2. The Trial Scene from “The Merchant of Venice”

UNIT 5 – COMMUNICATIVE GRAMMAR

1. Function Grammar & Functional English Exercises at the end of every lessons.

**School of Distance Education Syllabus shall be followed.*

THEORY PAPER: 1: INTRODUCTION TO NEW MEDIA (THEORY)

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.

Course Activities and Schedule:

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 Avinash Kaushik
- Socialnomics: How Social Media Transforms the Way We Live and Do Business, by Erik Qualman
- Digital Body Language, by Steven Woods

PART III

THEORY PAPER: 2: PRE PRODUCTION (THEORY)

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.

Course Goals:

The goal of pre-production is to develop an efficient structure for your project on which the final animation will be produced. In pre-production, we identify potential difficulties in production and work with you to minimize or eliminate them.

Course Activities and Schedule:

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.

Suggested books for Reading:

- The Five C's of Cinematography: Motion Picture Filming Techniques , by Joseph V. Mascelli
- Single Camera Video Production, by Robert B Musburger.

PART III

THEORY PAPER: 3: COMMUNICATIVE ENGLISH (THEORY)

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.

Course Activities and Schedule:

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.

PART III

THEORY PAPER: 4 : UNDERSTANDING COLOURS (THEORY)

Course Description:

Colour is truly a magical property. It can transform an environment, create a style, set a mood and alter perceptions. The choice of colour is personal, an expression of our individuality and can evoke both positive and negative feelings. Selection of valuable aids to enable professionals and home renovators to choose the right colour.

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 colour self help - Colours for living and learning - Provide helpful and professional advice on colour selection.

Suggested books for Reading:

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

PART III

PRACTICAL PAPER: 1: DRAWING AND COMPOSITION: (PRACTICAL)

Course Description:

Drawing plays a primary role in the development of an artist or designer. This course is an introduction to the principles and techniques of representational drawing. Students will develop their drawing skills through weekly studio exercises using direct observation.

Course Goals:

Students will develop the ability to see more thoroughly, and describe what they see through representational drawing. Students will develop the ability to speak about their drawings and two dimensional art in general.

Course Activities and Schedule:

PRACTICAL: 1

- * Ink drawing
- * Linear elements and contour lines
- * Brush marks and washes
- * Make drawings during class time using ink and both a nibbled pen and your bamboo drawing brush

PRACTICAL: 2

- * Reductive Drawing using smeared charcoal, a chamois cloth, and an eraser
- * Using the observation of light to create the illusion of form
- * Create a reductive drawing during class time

PRACTICAL: 3

- * Additive Drawing using charcoal and pencil
- * Create an additive drawing during class time.

PRACTICAL: 4

- * Working with multiple drawing techniques to make one coherent image.
- * Create a drawing using Ink, Reductive, and Additive drawing techniques
- * Use all three techniques in a complimentary way

PRACTICAL: 5

- * Still Life
- * Basic Composition and Pictorial Space
- * Create a still life drawing during class time.
- * Be able to briefly present your drawing to class.

PRACTICAL: 6

- * Portraiture
- * Proportions and measuring distances with a pencil/pen/brush.
- * What can you do to record another person's personality?
- * Draw a portrait of a classmate, during class time.
- * Be able to briefly present your portrait drawing to the class.

PRACTICAL: 7

- * Figure Drawing
- * Good manners and etiquette when drawing a live model are important
- * Demonstrating presence, and the ability to solve visual problems comes into play when drawing a live model who undertakes multiple poses.
- * Create multiple figure drawings
- * Use proportions and pictorial space to help make your drawing convincing.
- * Group critique towards the end of class. Figure drawing is a great introduction to group crit, because you will instinctually know if a drawing of a body is a convincing representation of the body.

PRACTICAL: 8

- * Pictorial Space
- * Sub topic - Perspective systems
- * Sub topic - Depth of field
- * Create a drawing using one point perspective
- * Create a drawing using observation
- * Be able to briefly present the drawing to the class.

PRACTICAL: 9

- * Figure, Objects, Space - Combining the Genres.
- * Create a drawing using Still Life, Figure, and Pictorial Space drawing.
- * Be able to present the drawing to the class.

PRACTICAL: 10

- * Create a list using image based writing techniques
- * Develop a drawing from your list
- * Unlike other class periods, we will need complete silence during the work period, as you will be “listening” to your creative imagination.

Suggested books for Reading:

- Perspective Drawing Handbook, By Joseph D'Amelio .
- Foundation Course in Drawing, By Peter Stanyer, Terry Rosenberg.
- Painting the Landscape in Pastel , By Albert Handell, Anita Louise West.
- The Ultimate Guide to Painting from Photographs , By James Markel (Edited by), Layne Vanover (Edited by)
- Faber Birren's The Elements of Color, Color and Human Response.
- Master Class in Figure Drawing (paperback) by Robert Hale and Terence Cole.

PART III

PRACTICAL PAPER: 2: DIGITAL IMAGING (PRACTICAL)

Course Description:

This course is an introduction to the use of the computer as a medium for making fine art. The course will emphasize developing the student's skill in making expressive visual statements utilizing computer technology.

Course Goals:

Upon completion of this course, the student should be able to:

Recognize and demonstrate safe lab procedures, use of basic computer hardware operating system, specific imaging software, the way color is manipulated on the computer, variety of input devices and variety of output devices.

Develop digital images employing various compositional strategies

Course Activities and Schedule:

PRACTICAL -1: STUDIO PROCEDURES

Explain and demonstrate proper use of equipment, materials, and supplies -
Practice safe studio procedures - Identify and develop productive work habits, including completing projects, maintaining the studio environment, and responding to supervision.

PRACTICAL -2: OPERATING BASIC HARDWARE

Define and use the CPU - Explain the function of the monitor - Define and demonstrate the use of the keyboard and mouse - Describe and demonstrate the use of peripheral devices

PRACTICAL -3: USING THE OPERATING SYSTEM

Open and utilize menu options, i.e. Apple menu, File, Edit, View, Special, Help
Open the hard disk folder, view content list, and close it (without modification!) - Employ “find file” - Create a new folder on the desktop - Name or rename the folder - Open the folder, resize the window, close the window - Drag to a new position, then to the trash, empty the trash - Perform a “forced restart” - Shut down the computer.

PRACTICAL -4: USING SPECIFIC IMAGING SOFTWARE (ADOBE PHOTOSHOP)

Open the software - Open a new file - Open an existing file - Utilize the Bridge software - Define and discuss the various menu and submenu items - Organize palettes and palette options - Utilize online help - Explore the various software tools - Use the selection tools - Utilize the paint tools - Manipulate the special tools - Use the screen tools - Explain and utilize masks and mask options - Define and use the navigator, info, and options functions - Explain and use presets - Describe and utilize the color, swatches, and brush functions - Explain and use the history and action functions - Define and work with layers and layer options - Describe and use a variety of filters and filters.

PRACTICAL -5: MANIPULATING COLOUR ON THE COMPUTER

Define and use grayscale mode - Explain and utilize duotone mode - Identify and use indexed colour mode - Define and utilize RGB mode - Explain and use CMYK mode.

PRACTICAL -6: USING A VARIETY OF INPUT DEVICES

Digitize an image or object(s) using a flatbed scanner - Digitize a transparency using a slide scanner - Take a picture of an image utilizing a digital camera - Capture an image from the web.

PRACTICAL -7: USING A VARIETY OF OUTPUT DEVICES

Illustrate the function and purpose of images output to the monitor - Define and demonstrate the different output to various printers - Print and explain the properties of an image produced from an inkjet printer - Print and define the properties of an image produced from a laser printer.

PRACTICAL -8: THE ARCHIVAL QUALITIES OF VARIOUS INKS AND PAPERS OR SUPPORTS

Identify and discuss fugitive inks - Classify and explain fugitive papers or supports - Identify and discuss permanent inks - Classify and explain permanent papers or supports.

PRACTICAL -9: THE BASIC VISUAL ELEMENTS AND THE ELEMENTS OF COMPOSITION

Create images utilizing the software employing the basic visual elements including line, shape, texture, value, and colour - Using the software, develop images with clear figure/ground relationships - Using the software, structure images that have a strong sense of harmony and contrast.

Suggested Books for Reading:

- Discovering Computers - Fundamentals 2011 Edition (Shelly Cashman Series) by Gary B. Shelly and Misty E. Vermaat.
- Light room 2: Streamlining your Digital Photography Process, by Nat Coalson.
- Adobe Photoshop Cs3 Bible.

PART III

PRACTICAL PAPER: 3: BASICS OF 2D ANIMATION (PRACTICAL)

Course Description:

Student will study advanced timing and weight through a series of projects designed to demonstrate the principles of animation. Issues such as key framing, in-betweening and cycling will be addressed and reinforced.

Course Goals:

This unit aims to introduce the students about the fundamental principles and basic techniques of 2D animation.

Course Activities and Schedule:

PRACTICAL:1

Introduction to flash - Workspace overview - Customize the workshop - Using the Stage and Tools panel - About the Timeline - Using Flash panels - Property inspector - Library panel - Movie Explorer - History panel - Colour panel.

PRACTICAL:2

About Flash files - Create or open a document and set its properties - View a document when multiple documents are open - Working with project - Importing artwork into Flash - (Working with Photoshop PSD files(PSD file import preferences) - Adding media to the library - Work with libraries & its items - Working with timeline - Working with scenes - Find and replace command - About templates .

PRACTICAL:3

About vector and bitmap graphics - Flash drawing mode - About overlapping shapes Using Flash drawing and painting tools - Draw with the pencil tools - Draw straight lines - Reshaping lines and shape outlines - Snapping (object snapping, pixel snapping, snap alignment) - Working with colour, strokes and fills .

PRACTICAL:4

Selection objects - Moving, copying and deleting objects - Arranging object (Stack, Align, Group, Break apart groups and object) - Transforming object - Using symbols, instances and library assets - Symbols overview - Types of symbols - Create symbols - Convert animation on the Stage into a movie clip .

PRACTICAL: 5

Animation basics - Creating motion - Creating key frames - Representations of animation in the Timeline - Frame rates - Frame-by-frame animation - Onion skinning - Extend still images - Mask layers - Using Timeline effects - Twinned animation - Special effects - Filter - Animation Filters - Create preset filter libraries - Blend modes in Flash - Working with text - Working with sound - Working with video .

Suggested books for Reading:

- Cartoon Animation (How to Draw and Paint series) by Preston Blair.
- The Illusion of Life: Disney Animation by Frank Thomas, Ollie Johnston (Contributor), Collie Johnston.

SYLLABUS FOR IIInd YEAR

PART – I

PAPER: 2 : TAMIL

School of Distance Education Syllabus shall be followed for Part I Paper I Tamil.

(See in the Last Pages of the Syllabus in pdf format)

PART – I
PAPER : II : FRENCH

Prescribed text : CAMPUS II

Units : 1-6

Authors : Jacky Girardet, Jacques Pécheur

Available at : Goyal Publishers Pvt Ltd 86,

University Block Jawahar Nagar

New Delhi – 110007.

Tel : 011 – 23858362 / 23858983

**School of Distance Education Syllabus shall be followed*

PART – I

PAPER: II: HINDI

POETRY : KAVYA TARANG

By Shrimati Nirmala Takur

Excluding following Poems

1. Donom ore Prem Palta Hai
2. Manushyatua
3. Himadri Tung Shring Se
4. Ari Barunaki Shant Kach Chas

Publisher : Sumithra Prakasham

16/4, Hasting Road,

Opp. Babuguna Market,

Alahabad – 211 001.

HISTORY OF HINDI LETERATURE

Only General Knowledge of the trends in the different streams of the first three Periods (i.e. AADI KAAL, BHAKTI KAAL AND REETI KALL only) Shorts notes

On the following Poets only KABIR, TULASIDAS, SURDAS, MEERA BAI, BIHARILAL, MYTHILISHARAN GUPTA, JAYASHANKAR PRASAD; PANT, NIRALA, MAHADEVI VERMA, DINKAR, BACHCHAN, DHARMAVIR BHARATI, PREMCHAND.

ALANKAR : ANUPRAS; YAMAK; SHLESH; VAKROKTI; UPAMA; UTPREKSHA, RUPAK, ATISHAYAKTI, VIRODHABHAS, ARTANTARANYAS, DRISHTANT And UDAHARAN.

Books for Reference:

1. HINDI SAHITYA KA SARAL ITIHAS

By : Rajnath Sharma M.A.,

Publisher : Vinod Pustak Mandir

Hospital Road, Agra – 282 002.

2. KAVYA PRADEEP

By Rambadri Shukla

Publisher : Hindi Bhavan,

36, Tagore Town,

**School of Distance Education Syllabus shall be followed*

PART – II

PAPER : II : ENGLISH

Course Activities and Schedule:

UNIT 1 – PROSE

1. My Early Days : APJ Kalam
2. Headache : RK Narayan
3. How to Escape from Intellectual Rubbish : Bertrand Russel
4. Marriage is a Private Affair : Chinua Achebe
5. The Town by the Sea : Amitav Ghosh

UNIT II – POETRY

1. The Palanquin Bearers : Sarojini Naidu
2. Next, Please : Philip Larkin
3. Mirror : Sylvia Plath
4. Ozymandias : R.B.Shelley
5. The Lamentation of the Old Pensioner : W.B.Yeats

UNIT III – SHORT STORY

1. Two Gentlemen of Verona : A.J.Cronin
2. Two Gift of the Magi : O.Henry
3. The Model Millionaire : Oscar Wilde
4. The Unicorn in the Garden : James Thurber
5. The Portrait : A.Huxley

UNIT IV – ONE ACT PLAYS

1. The Never Never Nest : Cedric Mount
2. Refund : Fritz Karinthy
3. The Forum : Shakespeare

UNIT V – COMMUNICATION SKILLS

Communicating Accurately, Appropriately and Fluently

1. Agreeing and Disagreeing
2. Seeking and Giving Permission
3. Persuading and Debating
4. Sounds and Symbols in English
5. Word and Sentence Stress
6. Effective use of Intonation

Interpersonal Communication

1. Effecting Listening
2. Understanding the Audience
3. Perceptual Clarity
4. Channel Awareness
5. Role of Non-verbal Communication
6. Pragmatics

**School of Distance Education Syllabus shall be followed*

PART III

THEORY PAPER 5: COMPUTER ANIMATION (THEORY)

Course Description:

Introduction to basic principles of computer generated animation, simply called as CGI or CG.

Course Goals:

To understand the complex, technical and aesthetic components of the design of animation.

UNIT – 1:

History of Computer Animation - Modeling digital objects that one can find reference for in the real world – Modeling hard surface and characters for 3D animated digital environments shading objects.

UNIT – 2:

Lighting concepts from the real world applied to digital 3D environments Character Animation Principles - Character Animation Projects - Camera Control - Camera control for animation production.

UNIT – 3:

Theory and fundamentals of character rigging for computer animation - Learning the basics of the animation pipeline for film production.

UNIT – 4:

Motion Data Processing - History of motion capture - recording actions of human actors, and using that information to animate digital character models in 2D or 3D computer animation.

UNIT – 5:

Real-Time Rendering (Scene graph, visibility, and culling)

Suggested books for Reading:

- The Art of 3D Computer Animation and Effects by Isaac Kerlow .
- Beginner's Guide to Animation: Everything you need to know to get started by Mary Murphy.
- The Animator's Survival Kit, Expanded Edition: A Manual of Methods, Principles and Formulas for Classical, Computer, Games, Stop Motion and Internet Animators by Richard Williams
- Understanding Motion Capture for Computer Animation, Second Edition (The Morgan Kaufmann Series in Computer Graphics) by Alberto Menache .

PART III

THEORY PAPER 6: 2D ANIMATION (THEORY)

Course Description:

This programme 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.

COURSE ACTIVITIES AND SCHEDULE:

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.
- The Illusion of Life: Disney Animation by Frank Thomas, Ollie Johnston (Contributor), Collie Johnston.
- 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 .

PART III

THEORY PAPER 7: 3D MODELING AND ANIMATION (THEORY)

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

COURSE ACTIVITIES AND SCHEDULE:

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
- Cartoon Animation (How to Draw and Paint series) by Preston Blair.
- The Illusion of Life: Disney Animation by Frank Thomas, Ollie Johnston (Contributor), Collie Johnston.
- Mastering 3D Animation , by Peter Ratner (Author)
- Autodesk Maya, 2011

PART III

THEORY PAPER 8: VISUAL EFFECTS (THEORY)

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.

COURSE ACTIVITIES AND SCHEDULE:

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] Zoran Perisic (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
- The Language of Visual Effects by Micheal J. McAlister
- Special Effects: The History and Technique by Richard Rickitt
- Autodesk Maya, 2011
- Adobe After Effects cs

PART III

PRACTICAL PAPER 4: ADVANCED DIGITAL GRAPHICS (PRACTICAL)

Course Description

This course introduces students to advanced digital imaging principles, techniques and practices in the Visual Communication environment in image creating.

Course Goals:

Digital Graphics is designed to provide students with an understanding of photographic / vector imagery as it relates to traditional and digital environment.

COURSE ACTIVITIES AND SCHEDULE:

PRACTICAL – 1: Essential Photography: Film and Digital

Getting started in professional photography - Film and digital cameras: the difference - Professional camera tips - Understanding exposure: aperture and depth of field - Looking after your camera - Camera accessories—do you need them? - How photographers use the Internet - Keeping a photography journal

PRACTICAL – 2: Portrait Photography, Light, Night and Exposure

Spot metering and matrix metering - Light and how to use it: night photography - Controlling exposure; controlling aperture - Using flash and fixing 'red eye' - Cropping your pictures - Digital colour correction - Portrait photography

PRACTICAL – 3: Still Life Photography

Still Life Photography and composition - Food photography - Good uses for digital photography Researching still life

PRACTICAL – 4: Action and Travel

Photojournalism, Action and Travel - Exploring photojournalism - How to do action photography - Photographing water sports - Travel photography - Photojournalism tips - Film and memory processing techniques

PRACTICAL – 5: Using Photoshop CS5

Using Photoshop CS5's Mini Bridge - The Essentials of Camera Raw - Camera Raw—Beyond the Basics - Attitude Adjustment - How to Resize and Crop Photos - Colour Correction Secrets - How to Create Stunning B&W Images - Creating HDR Images - Fixing Common Problems - Special Effects for Photographers - Sharpening Techniques - Step-by-Step Printing and Colour Management

SUGGESTED BOOKS FOR READING:

- “The Photoshop channels book” - Starring Scott Kel
- “Adobe Photoshop for Photographers CS5” -by Martin Evening
- “The Photoshop CS3/CS4 wow book”(8th edition) by Linnea Dayton and Cristen Gillespie
- “Advanced Photoshop” magazine - you pick it up at Hastings

PART III

PRACTICAL PAPER: 5: ADVANCED 2D ANIMATION (PRACTICAL)

Course Description

Student will study advanced timing and weight through a series of projects designed to demonstrate the principles of animation. Issues such as key framing, in-betweening and cycling will be addressed and reinforced.

Course Goals:

This unit aims to introduce students to the principles and Advance techniques of 2D animation.

COURSE ACTIVITIES AND SCHEDULE:

PRACTICAL – 1: INTRODUCTION & image creation

Introduction -. Review 12 principles of animation - Working with stage, timeline, and layers - Working with layers and layer folders - Using the drawing tools - Using object and merge drawing - Working with the colour panels - Grouping and breaking apart objects.

PRACTICAL – 2: Simple Animation

Importing bitmap graphics - Importing vector graphics - Intro to graphic symbols - Animation concepts - Creating and editing key frames - Frame-by-frame animation - Creating shape tweens - Creating motion tweens.

PRACTICAL – 3: Animation & Concepts of Reusable Objects

Using motion guides and masks - Creating shape tweens (shape hints) - Creating graphic symbols - Animating type - Movie clip symbols - Creating and using movie clip symbols - Organizing a movie clip timeline - Creating and using buttons - Using frame labels - Creating multiscene movies – Audio - Adding sound to frames and symbols - Playing and muting sounds - Apply twelve principles of animation to each project: squash and stretch, anticipation, appeal, staging, exaggeration, arcs, solid drawing, slow in/slow out, secondary action, follow through/overlapping action, straight ahead/pose to pose, timing and weight - Use text to create animated titles.

Create objects and move them along a time line - Import images from other applications and animate them - Morph 2d objects along a motion path - Use colour pallets appropriate for the final output medium - Manage transitions between color pallets in 8 bit documents - Create looping animation sequences - Export single images and animated sequences from animation program to other applications - Combine two or more animations into one document - Work from a storyboard to create an animated sequence - Apply various masking effects to animated.

PRACTICAL – 4: Action scripting

Using actions to control a timeline - Using frame labels - Creating button symbols - Creating animated buttons using movie clips – Movie Clip Controls – Browser / network.

PRACTICAL – 5: Advanced Animation Methods

Creating movies playing within movies (movie clips and .swf) - Controlling multiple timelines (movies) through action scripting - Critique storyboards.

PRACTICAL – 6: Streamlining Files for Use on the Web, Publishing Files to the Internet & Preloaders

Preloaders - Controlling sound with script - Exploring types of output - Work on final project in class - Importing video - Publishing demo (video) reels on web - Publishing and exporting files - Trouble shooting sites.

Suggested books for Reading:

- Cartoon Animation (How to Draw and Paint series) by Preston Blair.
- The Illusion of Life: Disney Animation by Frank Thomas, Ollie Johnston (Contributor), Collie Johnston.
- 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

PART III

PRACTICAL PAPER – 6: INTRODUCTION TO 3D SPACE LEVEL (PRACTICAL)

Course Description:

This course will cover all related techniques needed to create 3D scenes including lighting, texturing and rendering.

Course Goals:

Students will be given an overview of modeling techniques including texturing, lighting, and basic animation techniques, and rendering rigid objects.

COURSE ACTIVITIES AND SCHEDULE:

PRACTICAL -1. Maya Modeling

Introduction to the Maya Interface - Creating primitive objects - Moving Objects in the 3D Space - Maya View Tools - Layouts, Saved Layouts - Channel Box and Manipulators - Grouping and Parenting - Spline Modeling - About Nurbs (Non-uniform rational B-spline) - Creating Curve and Surfaces - Attaching and closing Surfaces -Duplicating curves - Lofting and revolving surfaces - Procedural Modeling - Create complex objects scenes using scripts as an alternative to GUI – based tools.

PRACTICAL-2. Maya Texturing and Rendering Overview

Creating Uvs – Planar Mapping – Cylindrical Mapping - What is rendering - How Maya renders - Shader Networks - Shading Groups – Materials – Lights - Maya architecture - Nodes and Attributes - Hyper Graph - IPR (Interactive Photo realistic Rendering)

PRACTICAL-3. Lighting

Type of lights – usage of each, techniques for each Light Linking - New linking to Objects (and sets) workflow - Reason for light linking – matching live footage lighting - Light attributes – What you're adjusting and why – Show manipulators - Light Fog - Intensity Curves – Shadows - Depth map – What, When and Why to use - Reuse / Share depth maps - Ray traced - What, When and why to use - Shadow Techniques (For realism and Optimization) - Adding hard or soft shadows to a scene - Shafts of Light – light fog - Trouble – shooting section for shadow problems.

PRACTICAL-4. OptiFX Techniques and Tips

Occlusion – as applies to light glow - Auto – exposure – as applies to Shader Glow - Rendering Performance - Selective Ray tracing - Multithreaded tile – based batch renderer concepts – Renderer.

PRACTICAL-5 General Animation

Powerful Key framing Tools – Key framing - First Cut, copy and paste of animated objects in the timeline - Animation play blast for rapid review of complex scenes - Path Animation - Animate an object along a curve or surface - Edit path or other animation parameters during playback - Set Driven Key - Establish Relationships where one action automatically drives another - Dope sheet - Rapid and intuitive global editing of key frame timing - Channel Box - Quickly edit an Object's attributes, one or more fields at a time - Graph Editor - Precise Controlling on animated parameter changes over time -Motion Blur - Generalized Constraints - Comprehensive assortment of constraints.

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
- Cartoon Animation (How to Draw and Paint series) by Preston Blair.
- The Illusion of Life: Disney Animation by Frank Thomas, Ollie Johnston (Contributor), Collie Johnston.
- Mastering 3D Animation , by Peter Ratner (Author)
- Autodesk Maya, 2011

SYLLABUS FOR IIIrd YEAR

PART III

THEORY PAPER: 9: MEDIA MANAGEMENT (THEORY)

Course Description:

This course will explore the management of electronic media within the new information environment.

Course Goals:

The Students will develop an understanding about the strategic role of media.

COURSE ACTIVITIES AND SCHEDULE:

UNIT – 1:

Matching brand perceptions to media perceptions - A study of the emerging media options for advertisers - Understanding the level of involvement in to TV programming and its relationship with advertising effectiveness - Involvement and media planning - The effect of the advertising that is targeted towards kids, on parents buying behavior - Gender roles in youth media v/s reality - Gender differences in brand relationships - Promo planning for TV programs : an emerging science - Television viewing selection by individuals during prime time in a multi-channel universe - Measuring cinema audience - Intentional viewership in television : an analysis .

UNIT – 2:

Can advertising agencies of today be the brand consultancies tomorrow? - Understanding ad clutter and identifying means to break it - Understanding cricket viewership and advertising trends - Advertising on internet: study analyze online media planning, existing trend, perceptions and belief - An attempt to predict the ratings of a movie in a television media plan - Future of Indian radio broadcasting viability of genre based stations: a study based on analysis of mature radio markets - Assessing the consumers.

UNIT – 3:

Perception of and response to advertising clutter in TV - Qualitative factors affecting advertising effectiveness on radio - Understanding internet advertising activity and effectiveness - Strategies used in building media brands - Television scheduling strategies.

UNIT – 4:

Nation and nationalism : an understanding through bollywood / Kollywood film songs - A study on promo pretesting - Understanding internet user behavior : a study of internet audience measurement and efficiency - Impact of sports / cricket on television broadcast industry in India - Microfinance and private commercial banks - Utilizing sports for corporate brand management : an exploration into corporate-sport associations beyond sponsorship .

UNIT – 5:

Creativity in media planning evaluating the process and investigating the future - A comparison of non-TVC advertising across platforms - Search marketing and behavioral targeting : an exploratory study in the Indian context - Evaluating the process and efficiency of buzz marketing for launch of Indian television shows - A qualitative analysis of product placements in TV shows - Evaluating the feasibility of an Indian rock magazine - Branded entertainment : a departure from 30-second commercials.

Suggested Books For Reading:

- Strategic Management in the Media: Theory to Practice by Lucy Küng
- Advertising Media Planning: A Brand Management Approach by Larry D. Kelley and Donald W. Jugenheimer

PART III

THEORY PAPER : 10: MEDIA AESTHETICS (THEORY)

Course Description:

This course gives an overview of ideas, movements, and technological/artistic practices which have guided new media aesthetics and art movements throughout the twentieth century. It is a questioning of art in/and/of technology.

Course Goals:

The course is mainly concerned with both the incorporation of advanced media technologies into traditional art forms (painting, sculpture, language, performance, movement) and the aesthetic experimentation inherent in all products of multimedia, net communications, hypertext, and virtual environments.

COURSE ACTIVITIES AND SCHEDULE:

UNIT - 1:

What is aesthetics? – Art in Digital Environments - Describe and analyze the major ideas of the article argue using examples from own experience - Applied Media Aesthetics - Experimental Film and Video.

UNIT – 2:

Introduction to light, colour - Lighting in painting - Lighting in photography - Lighting in film - Lighting in video - Colour in painting - Color in photography - Color in film - Color in video – Motion – Editing.

UNIT – 3:

Web aesthetics - Web Aesthetics Discussion - Web design, web based - art, streaming audio/video, 3D animation, net activism, chat rooms, webcams etc. - Argue how and why the chosen artworks are relevant to the study of contemporary art in digital environments.

UNIT – 4:

Sampling Sound Projects - Discussion about copyright legislation and digital sampling - Think of an artist or artist movement which in your opinion has been influential to digital aesthetics.

UNIT – 5:

In Class presentations - Write a response paper about Digital Art and Copyright/censorship.

Suggested books for Reading:

- Sight, Sound, Motion: Applied Media Aesthetics, by Herbert Zettl .
- Rethinking Media Change: The Aesthetics of Transition (Media in Transition) by David Thorburn and Henry Jenkins.
- VOICE: Vocal Aesthetics in Digital Arts and Media (Leonardo Book Series) by Norie Neumark, Ross Gibson and Theo van van Leeuwen.

PART-III

THEORY PAPER: 11 **(Anyone of the Elective Paper)**

ELECTIVE 1: SPECIALIZATION IN 3D PRODUCTION AND VISUAL EFFECTS **PRODUCTION**

Course Description:

The course is taught using Foundry Nuke and Final Cut Pro in the lab.

UNIT – 1:

Introduction to Nuke User Interface - UI Customization - Organization of Tools in Nuke - About the Viewer - Basic Compositing Workflow in Nuke - Multi-channel Workflow - Where to Find Supporting Resources for Nuke? – Transforming.

UNIT – 2:

Warping & Morphing - Colour Manipulation – Keying – Roto scoping – Tracking – Motion Blur - Open a Script in a Text Editor - Expressions & Python.

UNIT – 3:

Gizmo - 3D Workspace - Stereoscopic (multi-view) Compositing - Lens Distortion - 3D Camera Tracker – Depth Generator – Furnace Core - Introduction to FCP - Capturing Media - Getting Digital - Working with Clips - Navigating with Time code - Setting In and Out Points - Editing in FCP .

UNIT – 4:

Using the Timeline and Canvas - Transitions - Sending Project to Tape or DVD - Technical Resources.

UNIT – 5:

Working with Audio - Working with Images - Creating Titles - Soundtrack: library of audio loops and effects - Live Type: for complex animated titles.

Suggested Books for reading:

- Editing Techniques with Final Cut Pro, by Michael Wohl
- Nuke 101: Professional Compositing and Visual Effects by Ron Ganbar
- Professional Digital Compositing: Essential Tools and Techniques by Lee Lanier

ELECTIVE 2: SPECIALIZATION IN 3D PRODUCTION - GAME ART AND DESIGN

Course Description:

Games Development will cover 3D game programming using the Torque Game Engine/Torque script and C/C++ code to modify the Torque Engine. This course will require students to write copious amounts of Torque Script, C and C++ code over the semester. At the end of the course, students should have the ability to write any type of 3D game they can image.

UNIT – 1:

Course Overview and C/Win32 game - full circle games introduction - Game Building and Modeling Introduction.

UNIT – 2:

Modeling and Animations, Interiors - More complex UV mapping, Programmatic movement.

UNIT – 3:

Advance C++ techniques - Intro to DirectX 3D - Camera - Meshes - Geometry, Vertices & Indices - Texture and Lighting - Particles - Intro to Networking, Direct play, Multiplayer gaming.

UNIT –4:

Introducing Blender 3D - Character Animation with Blender 3D - Developing Games In Java.

UNIT – 5:

Introduction to Torque Game engine - Focus on final projects, installers, triggers - Torque internals, physics, Pathing - Torque Script, Data blocks, Agile Programming - Camera Pathing, Camera Control.

Suggested Books for reading:

- The Game Programmer's Guide to Torque: Under the Hood of the Torque Game Engine (GarageGames) (Garagegames S.) by Edward F. Maurina
- 3D Game Programming All in One by Kenneth C. Finney
- Advanced 3D Game Programming All in One by Kenneth C. Finney
- A Theory of Fun by Ralph Koster.
- Developing Games in Java by David Brackeen
The C++ Programming Language - Stroustrup

PART-III

PRACTICAL PAPER – 7: NON-LINEAR EDITING AND DIGITAL COMPOSITING (PRACTICAL)

Course Description:

This course focuses on animating and compositing digital imagery using the layer-based compositing and Editing.

Course Goals:

This course covers the core creative and technical concepts related to animation, Editing, compositing, and motion graphics for video

COURSE ACTIVITIES AND SCHEDULE:

PRACTICAL - 1: Introduction to Non – Linear Editing

Professional hands on training in Non-Linear Video Editing - introduces the basic principles of film language and filmmaking.

PRACTICAL - 2: Editing and file formats

Film format and editing equipments - Practice in Digital capturing – Video transitions - Editing of a documentary film - Editing of an advertising film - Editing of short fiction and feature film.

PRACTICAL - 3: Compositing

Layer-based compositing, including apply modes and transparency - key frame-based animation - nested-compositions and the rendering pipeline - issues relating to compositing interlaced media.

PRACTICAL - 4: Animation and Compositing

Proficiency with Adobe After Effects for animation and compositing - Role of motion graphics in effective information design - Using Photoshop and Illustrator in the After Effects workflow.

PRACTICAL - 5: Audio for Media

Introduction to Audio - Editing audio, Cutting, Pasting and merging - Dynamic, and Condenser Mics - Mic positions, recording techniques - audio Music & Narrative – Final shoots, specific rendering and output options.

Suggested Books For Reading:

- Digital Non-Linear Desktop Editing by Sonja Schenk
- Nonlinear - A Field Guide to Digital Video and Film Editing by Michael Rubin
- 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
- Photoshop Compositing Secrets: Unlocking the Key to Perfect Selections and Amazing Photoshop Effects for Totally Realistic Composites by Matt Kloskowski
- Professional Digital Compositing: Essential Tools and Techniques by Lee Lanier
- Audio in Media by Stanley R. Alten

PART-III

PRACTICAL PAPER – 8:

SPECIALIZATION IN 3D PRODUCTION (ANY ONE OF THE SPECIALIZATION)

SPECIALIZATION: 1: CHARACTER MODELING AND ANIMATION (PRACTICAL)

PRACTICAL – 1:

Polygonal Modeling – Using primitives Converting Poly To Quads – Creating Linear Templates – Working With Poly Editing Tools: Making Simple Hand – Sub div Proxy Modeling – Splitting Polygons – Creating Areas of Details on a Poly Mesh (Surface).

PRACTICAL – 2

Modeling with NURBS – Lofting, Surface, Extruded Surface, Planar Surface, Beveled Surface, Boundary Surface – Combining Techniques and Surface History – Modeling with Deformers – Editing NURBS Surfaces – Using NURBS Surfacing to Create Polygons – Converting NURBS to Polygons Patch Modeling – Using Artisan to Sculpt NURBS.

PRACTICAL – 3

Modeling with Deformers and Subdivisions Surfaces – The Lattice – Creating a Base Poly Model, Converting it to a subdivision Surface and Converting Back to polygon – Human Hand and Character’s Head.

PRACTICAL – 4

Basic Animation – Creating Keys – Setting Breakdown Keys – Bouncing a Ball – Creating and Editing Keys Using the Graph Editor – Adding “Whiz Bang”, Squash and Stretch – Converting Cycled Animation to Curves.

PRACTICAL – 5

Character Animation – Skeletons – Clusters and Lattices Forward and Inverse Kinematics – Using the IKRP Solver, IKSC Solver, IK Spine handle Solver, IK Spring Solver, Human IK Solver – Switching between FK and IK – The Animation Process: Posing, Timing and Refining

SPECIALIZATION: 2: LIGHTING AND RENDERING (PRACTICAL)

PRACTICAL – 1:

Light basics - Observing & studying surfaces - Lighting & rendering terminology - UV Mapping overview.

PRACTICAL – 2:

Shadow types: Depth Map & Ray traced shadows - Creating texture maps: Specular and Bump - Global Illumination using Spot lights - Ray tracing: reflections & refractions - Basic three point lighting setups - Physical Sun & Sky network.

PRACTICAL – 3:

Colour Temperature Chart - Overview of Final Gather - Scattering - Mental Ray's nodes - A first look at Global Illumination - Introduction to Caustics - Using Global Illumination - Setting up caustics.

PRACTICAL – 4:

Creating an underwater scene using fake caustics procedurally - Volume Primitives - Environment Fog –Tileable textures (Photoshop) - Ambient Occlusion.

PRACTICAL – 5:

Indirect lighting: Final Gather - Maya Utilities & Shading Networks - Advanced Maya Texturing and Lighting. Maya Hardware, Software, Mental Ray and Vector settings overview.

SPECIALIZATION: 3: DYNAMIC PARTICLE ILLUSION (PRACTICAL)

PRACTICAL – 1:

Particle and Environment Aspects – Physics of Dynamics – Static and Dynamics, a Comparative Study – Fluids.

PRACTICAL – 2:

Fluids and their Props for Environmental Effects – Particles and Fluids Interactions – Simulations and Fluids.

PRACTICAL – 3:

Sizing and Fixing Properties – Hands On: Sands and Glass Particles, Environment and Physical Structures.

PRACTICAL – 4:

Effects of Particles with Hair, Fur, Cloth – Dust Particles and Simulations – Subdivisions Properties of Tiny Objects – Particles Containers

PRACTICAL – 5:

Integrating Independent Workflows – Hands On: Creating Subdivided Clouds – Overcoming Practical Difficulties of Particle Creation and Simulation – Overcoming Hardware Requirement.

Suggested Books for reading:

- Learning Autodesk Maya 2008, (Official Autodesk Training Guide, includes DVD): The Modeling & Animation Handbook by Marc-André Guindon
- Advanced Maya Texturing and Lighting by Lee Lanier
- Maya Visual Effects: The Innovator's Guide by Eric Keller
- Maya Studio Projects: Dynamics by Todd Palamar