

School of Education Technology
Jadavpur University
Kolkata -700032

Six months Certificate course in Multimedia Development & Applications

OBJECTIVES

After finishing this course, students will be able to

- Develop skills in digital imaging and creating rich Multimedia applications
- Develop skills for sound-recording and playback, software for composing, sequencing and editing music
- Develop skills in designing Web Applications.
- Develop awareness of current 3D modeling practices through diverse examples of 3-dimensional modeling, texturing, shading, animation

Course Duration 6 months (3 days /week)

Course Fees Rs 18,000

Eligibility Higher Secondary (10+2) (Appeared/Passed), Diploma in Fine Arts, Bachelor in any discipline (passed or equivalent)

Class Duration Theory classes - 2 days/week (1 hour/class)
Lab classes - 2 days/week (2 hours/class) + 1 day/week (3 hours/class)
Project classes - 3 days/week (3 hours/class)

Payment Criteria Demand Draft (in favour of 'Registrar', Jadavpur University), Payment in cheque or cash not allowed

Application deadline **February 16, 2018**

Application forms are available at School of Education Technology (Jupiter Building), Jadavpur University.

A half-day seminar will be organized by School of Education Technology where students are invited to attend the seminar and understand the essence and fundamental objective of this certificate course. It is granted by the School authority that the students' entry fee for the seminar is free.

Seminar Venue School of Education Technology (Jupiter Building, 3rd Floor), Jadavpur University

Date & Time January 17, 2018 & 11.00 a.m. to 1.30 p.m.

Contact Person – Dr. Saswati Mukherjee

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Six months Certificate course in Multimedia Development & Applications

COURSE CURRICULUM

School of Education Technology

SL.No.	Code	Subject Name	Contacts Periods/Week		Credit	Marks	
			Theory	Practical		Theory	Sessional
1.	SET-CCT-1	Multimedia System	1		2	50	
2.	SET-CCT-2	Principles of Multimedia Design and Presentation	1		2	50	
3.	SET-CCS-3	Web Analytics		3	3		50
4.	SET-CCS-4	Media Editing Laboratory		3	3		100
5.	SET-CCS-5	2D Animation & Authoring Laboratory		3	3		50
6.	SET-CCE- 6/7	Elective I/ Elective II (Theory)	1	3	4		
7.	SET-CCS-8	Project		3	3		100
Sub Total			3	15	20	100	300
Total			18			400	

Elective Papers

SL.No.	Code	Subject Name	Contacts Periods/Week		Credit	Marks	
			Theory	Practical		Theory	Seesional
Elective - I							
1.	SET-CCE-6	Web Designing & Applications	1	3	4	50	
Elective - II							
2.	SET-CCE-7	3D Modeling & Animation	1	3	4	50	

Syllabus

SET-CCT-1: Multimedia System

Introduction to multimedia - Different media, characteristics and use

Graphics and Text - Advantage and use of graphics, Types of text, Text file formats

Image - Introduction and Image types, Color models, Scanner and digital camera, File formats

Audio - Analog signal, Digital signal, Conversion (ADC), Characteristics of sound, MIDI, Audio file formats

Video and animation - Analog and digital video, Transmission of video signal, File formats, Types of animation, characteristics and file format

Basic output principles - Principles of CRT, LCD and PDP, Raster scanning, flickering and aliasing effect

Storage media and compression techniques - CD and DVD, Lossy and lossless compression, Different compression techniques

SET-CCT-2: Principles of Multimedia Design and Presentation

Authoring Metaphors - Introduction, Definition & functions of Metaphors, Basic Categories - Slideshow metaphor, Timeline metaphor

Scripts, flowcharts & Storyboards - Creating scripts, storyboards and flowcharts, Advantages of Storyboarding, Interactive Storyboarding, Simple interactive flowcharts, Complex interactive flowcharts, Writing scripts, Case studies

Introduction to HCI - Human factors, Fundamentals of Human perception, Dialogues and tasks, Framework for HCI, Modeling Human Computer Interaction

Human Computer Interface Design - Guidelines for user interface design, Dialogue Design, Graphic Design and Style issues, Standard interface elements in windows

Visual Design - Introduction, Visual design methodology, Visual Coding, Layout Principles

SET-CCS-3: Web analytics

Basics of Web Analytics - Web Analytics Process, Web log file analysis vs Page Tagging, Data Sources – RSS Feeds, Web Analytics Tools and Technologies, Google Analytics Layout and Basic Reporting

Search Engine Optimization – Essential Tips and Techniques

Basics of Digital Marketing - Evolution of Internet Marketing, Marketing Strategies, Adwords Campaigning

SET-CCS-4: Media Editing Laboratory

Image Editing using Photoshop

Work Area and Canvas, Image Size, Canvas Size, Rulers

Color modes, Basic and Advance Selection Method (Lasso, Polygonal lasso, Magnetic lasso, Pen tool, Magic Wand, Quick Selection Tool), Feather, Load Selection/Save Selection, Shapes, Transformation Methods, History/Art History Brush Tool, Slice, Crop, Blur, Sharpen, Smudge, Dodge, Burn, Sponge Tool

Layers - Basic Layer Concept, Layer Style, 3D Layer, Layer and Vector Masking, Blending, Modes, Filters

Color Editing - Hue/Saturation, Brightness/Contrast, Levels/Curves, Photo Filter, Pattern Fill, Gradient Fill, Gradient Tool/Paint-bucket Tool, De-saturate

Photo Restoration - Clone Stamp Tool, Spot Healing, Healing Brush, Patch Tool

Photoshop for Website - Web Elements Designing, Image Save for Web and Devices

Image Editing using Corel Draw

Introduction to vector graphics and text composition, Drawing, Painting and Adding fill colors and Special Effects, Composition for Print and Artwork

Audio editing

Introduction to Audition, Setting Up Your Audio Input and Output, Importing and managing media files, Recording of audio (commentary, dubbing, music), Sound Selection, Insertion, Marker, Working with sound files (Sound Cut, Paste, Copy, Paste Special), Noise Removal, Making standard waveform audio adjustments, Adding special effects to a file, Concept of Tracks Multi-track editing

Video Editing using Premier

Video sequence, wide, medium and tight shots incorporated into video, 180 degree rule for video composition, Zoom, pan and tilt and their uses, Camera Lens Controls, Basic operational techniques of video camera, Audio recording techniques during shooting, Video capture and import, Editing in Premiere, Effects and Transitions, Color Correction, Motion and Speed, Use of animation in a story during editing, Rendering and different type of digital media output

SET-CCS-5: 2D Animation & Authoring Laboratory

Introduction to Flash - Basic Drawing, Onion Skinning, Concept of Symbols, Frame by Frame Animation, Types of Tweening, Orient to Path, Masking, Path Animation

Action Script 2.0 - Introduction to AS2 (Variables, Data types, Functions, methods, parameters, Comments, Communicating with symbol instances, Instance properties and methods, Dynamic text, Input text, Custom Functions), Events (Button event handling), Conditional Statements (Arrays, Objects, Looping, Math)

SET-CCE-6: Web Designing & Applications

Web Design Concept (Basic Principles, Navigation Bars, Page Design, Home Page Layout, Design Concept)

Concepts on HTML 4 - Structure of HTML Doc, Meta Tags, Links, Text, Lists, Tables, Inclusions (Objects, Images and Multimedia Content), Forms, Frames, Div, Hyperlinks, Image Maps

Introduction to Cascading Style Sheets - Concept of CSS (Creating Style Sheet, CSS Properties), CSS Styling (Background, Text Format, Controlling Fonts, Positioning), CSS Advanced (Working with block elements and objects, working with Lists and Tables, CSS Id and Class)

Introduction to Java Script - JavaScript (Document Object Model, Object References - Objects, Methods, Properties, Event Handlers, Language Constructs, Statements & Operators)

Introduction to HTML 5 - HTML5 (Introduction, Support, Elements, Semantics, Migration, Style Guide, Canvas, SVG, Google Map, Media, APIs)

SET-CCE-7: 3D Modeling & Animation

Basic 3D Modeling

Viewing and Navigating 3D Space: Zooming, Panning, Standard Primitives, Compound Primitives, Extended Primitives, AEC Extended, Selecting Objects: Freeze, Hide, Isolate Selection,

Transformation: Translation, Rotation and Scaling of Objects, Cloning Objects, Exploring Important Modifiers, 2D Splines (Lines, Arc) into 3D Objects using Lofting and Lathing, Editing Edge, Vertex, Border, Polygon, Editing Polygons using Extrude, Outline, Bevel, Inset, Bridge, Modeling Interior, Exterior of a building

Material Scene Composition & Light

Exploring Some Common Materials/Maps and adding texture to objects, Types of Lighting, Shadows, Rendering using Mental Ray Settings

Animation and Special Effects

Keyframe Animation, Camera Walkthrough, Particle System, Smoke, Fire, Fog, Space Wraps

SET-CCS-8: Project

Developing a multimedia product using all media components