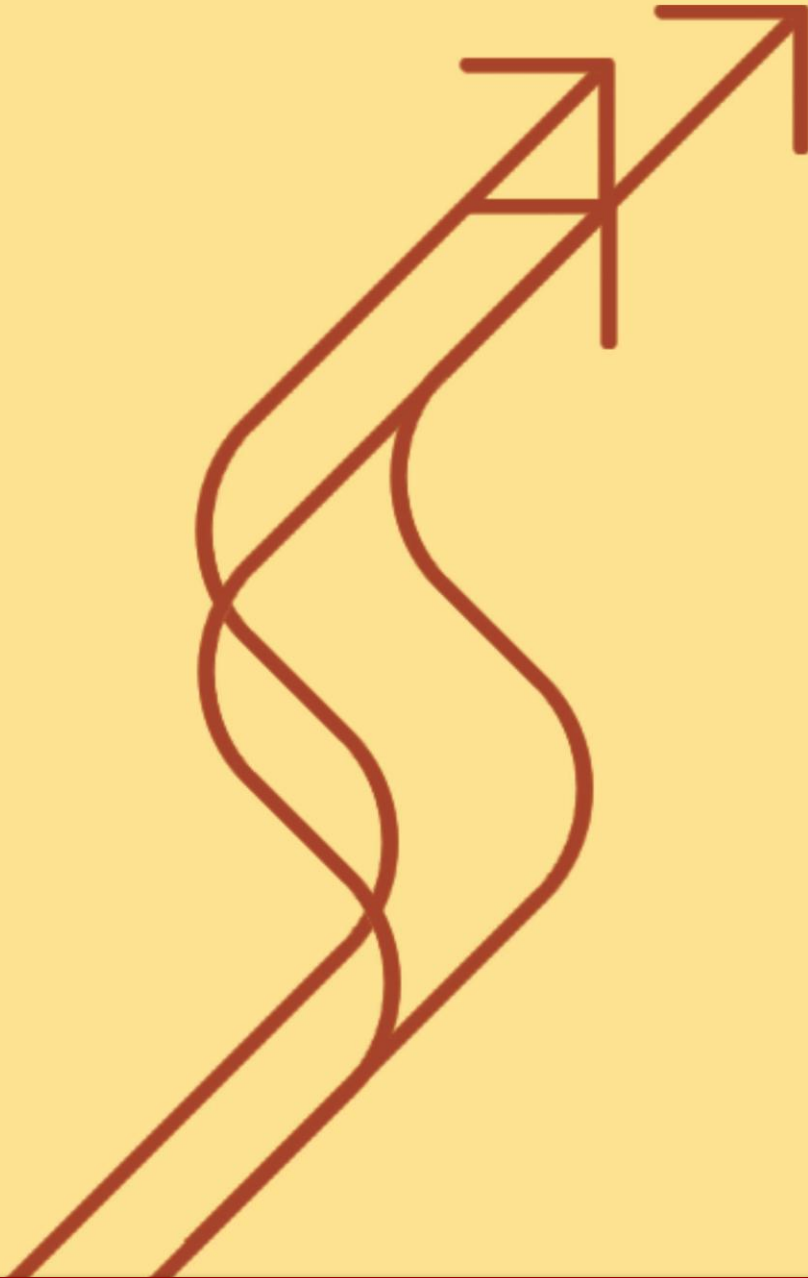




**MKCL Arabia Ltd.**  
**EGYPT** Creating a Knowledge Lit World



**WAVE COURSES**

[www.mkcl.com.eg](http://www.mkcl.com.eg)



## About MKCL Arabia

MKCL Arabia Egypt is a Limited Liability Company based in Cairo, Egypt and is incorporated under the laws of Arab Republic of Egypt. MKCL Arabia Egypt is a subsidiary of MKCL Arabia Ltd.

MKCL Arabia Limited, a Limited Liability Company based in Riyadh, Saudi Arabia and is incorporated under the laws of Kingdom of Saudi Arabia with Commercial Registry No. 1010243561 dated 1429/01/21. MKCL Arabia Ltd is a joint venture company established by International Company for Education and eLearning (ICEEL), Saudi Arabia and MKCL International FZE Sharaja. MKCL International FZE is a 100% subsidiary of Maharashtra Knowledge Corporation Ltd India (MKCL India). MKCL India has many remarkable achievements in the field of eLearning, eGovernance and eEmpowerment in India. MKCL Arabia Ltd is promoted to create new paradigm in education, development and empowerment through universalization and integration of Information Technology in learning and empowerment processes in particular and socio-economic transformative processes in general in the Kingdom of Saudi Arabia.

Maharashtra Knowledge Corporation Limited (MKCL) India was promoted by the Department of Higher and Technical Education, Government of Maharashtra, India. The Government of Maharashtra (GoM), nine Universities in the state, educational institutions, community institutions, IT and non-IT industries, etc. are among the initial major equity holders of MKCL. With GoM's equity within a range of 26% to 30%, the company has a unique blend of governmental credibility and social responsibility on one hand and entrepreneurial competitiveness, market orientation, flexibility, productivity, profitability and self-sustainability on the other. The founders conceived a unique identity of MKCL as a fast-track IT enabler and a complementing and supplementing partner of the universities, governments and communities for the fulfillment of the new and growing aspirations of students in particular and people in general in the emerging knowledge society and knowledge-led economy.

## Vision

To develop learning and empowerment systems which are world-class and value-based for building the knowledge society and which are responsive to the individual and social developmental needs of the people of Egypt by bridging the Digital Divide.

## Mission

To promote eLearning and eEmpowerment,

- Amongst large and diverse populations
- With high quality
- At an affordable cost
- At fast pace with widest accessibility

As it is critical for survival, development and empowerment of individuals, communities and nations.



## Moving Towards a Knowledge Economy

Creating a knowledge-led economy and knowledge-based societies in the world is a key to survival and development of people in the emerging knowledge era.

MKCL Arabia Ltd believes that there is a great potential in societies to emerge as a knowledge-led economy thanks to their large but latent talent pool. The challenge exists in transforming their predominantly agrarian or industrial economy into a new knowledge-led economy.

This transformation can be reached by imbibing a culture of lifelong learning. The severe threat of marginalization of the masses emerging from the Digital Divide and Knowledge Divide can be effectively averted through mass IT literacy. Only an IT Literate society can enjoy a greater share of global business opportunities and global job opportunities.

MKCL Arabia Ltd is an entrepreneurial endeavor to bridge this Digital Divide and the resultant Knowledge Divide by offering actionable knowledge for socio-economic transformation.

MKCL's synthesis of a new paradigm of education is to offer education:

- To very large and diverse population with various diversities – Bigger
- With high quality of relevance and applicability in life and work- Better
- At an affordable cost- Cheaper
- Within shortest possible time – Faster
- With wide accessibility from metros to villages – Wider
- In a mass-personalized and deeper experiential manner-Deeper

MKCL Arabia Ltd attempts to address these six challenges simultaneously by pervasive and appropriate use of IT for empowerment of the masses in general and youth in particular.

## World-Class Academy for Vocational Excellence

### WAVE Courses Structure

In addition to the IT literacy courses, MKCL, under its brand WAVE, also offers employability skills development courses in many disciplines such as Digital Arts, Publishing, Illustrations, Multimedia and Animation, Web Designing, Video Editing, Programming, Hardware and Networking, Life Skills for Workplace Readiness, Retail Management, Selling, BFSI, Personal Financial Management, Financial Accounting, KPO, BPO, eEducation, etc.

The WAVE Learners enjoy the benefits of MKCL's unique eLearning environment ERA and MKCL's work-centric (and not mere book-centric or information-centric) vocational education approach. During the course, the learners are trained to produce **socially useful and productive work** (SUPW). The learning process is so designed that it begins with work, from the work learner derives knowledge and then applies that knowledge to produce more wholesome and profound work.



### 1.1.1.1 Digital Arts | Graphics | Animations

#### 1.1.1.1.1 Diploma in Image Editing

##### 1.1.1.1.1.1 Syllabus

Lab	Assignment
Basics of Photoshop CS4	Introduction to Photoshop CS4
	Pixels and Resolution
	Introduction to Basic Tools
The Working Place	Installing Photoshop CS4
	Photoshop CS4 Interface
Customizing	Organizing
	Saving
Image and Color Modifications	Image Modifications
	Color Modifications
Tools	Basic Tools
	Selection Tools
	Drawing and Coloring Tools
	Advanced Tools
	Text Tools
	Tools Presets
Using the Brush and Paint	Brush Presets
	Color and Shapes
Working with Selections	Making Selections with Different Tools
	Modifying an Existing Selection
	Saving and Loading Selections
Scaling	Transform
	Content Aware Scaling
Knowing the Layers	Working with Layers
	Layer Options
	Layer Effects
Getting Creative with	Type Tool and Options



Lab	Assignment
<b>Types</b>	Advanced Text Options
<b>Masks</b>	Mask Types Modifying Masks
<b>Filter Gallery</b>	Filters and Effects Additional Filters
<b>Playing with Palettes</b>	Arranging Workspace Various Palettes
<b>Color Adjustments</b>	Contrast Colors More Adjustments
<b>Automating</b>	Actions Scripts Variables Photo merge
<b>Web and Multimedia</b>	Save for Web Web File Formats Color Mode PDF Device Central
<b>Animating and Slicing</b>	Animations Slicing Images Saving Slices Export to Video
<b>Output</b>	Printing Color Management
<b>Adobe Bridge</b>	Interface Organizing Images in Camera Raw Settings in Camera Raw Exporting Applying Adjustments



#### 1.1.1.1.1.2 Eligibility

MICIT or Equivalent course in computer fundamentals

#### 1.1.1.1.1.3 Job Opportunity

Graphic Designer

#### 1.1.1.1.1.4 Required Tools

Adobe Photoshop CS4, Sound Forge

#### 1.1.1.1.1.5 Duration

120 hours

#### 1.1.1.1.1.6 Medium

English / Arabic

### 1.1.1.1.2 Diploma in Content Illustration

#### 1.1.1.1.2.1 Syllabus

Lab	Assignment
Basics of Illustrator CS4	Introduction to Illustrator CS4
	Colors in Illustrator CS4
	Introduction to Basic Tools
The Working Place	Installing Illustrator CS4
	Illustrator CS4 Interface
Customizing	Organizing
	Saving
	Artboards
Tools	Selection Tools
	Drawing and Painting Tools
	Type Tools
	Zooming and Moving Tools
Knowing the Layers	Layer and Layer Options
Pen, Pencils and Paths	Path and its Options
Using the Brush and Paint	Brushes
	Brush Library
	Painting in Illustrator



Lab	Assignment
	Blending
<b>Specialized Tools</b>	Reshaping Tools
	Graph Tools
	Slicing and Cutting Tools
	Symbol Tools
<b>Getting Creative with Types</b>	Using and Modifying a Type
	Using Character and Paragraph Palettes
	Area Type
	Path Type
<b>Using the Symbols</b>	Symbol Options
	Symbol Library
<b>Designing Graphics</b>	Using Graphics
	Graphic Styles
<b>Effects and Filters</b>	Applying Effects
	Editing Effects
<b>Playing with Palettes</b>	Arranging Workspace
	Various Palettes
	Libraries
<b>Select, View and Object</b>	Selecting Options
	Viewing Options
	Object Options
<b>Automating</b>	Actions
	Scripts
	Variables
<b>Output</b>	Proofing
	Printing
	Setting Output Options
	Color Management
	File Information
<b>Exporting</b>	Exporting in File Formats
	Exporting to Other Adobe Applications
<b>Web and Multimedia</b>	



Lab	Assignment
	Save for Web
	Web File Formats
	Slicing Images
	Saving Slices
<b>Settings</b>	
	General Preferences
	Type Preferences
	Units and Display
	Slices and Hyphenation
	Plug-Ins and Scratch Disks
	Advanced Settings
<b>Adobe Bridge</b>	
	Interface
	Organizing Images in Camera Raw
	Settings in Camera Raw
	Exporting
	Applying Adjustments

#### 1.1.1.1.2.2 Eligibility

MICIT or Equivalent course in computer fundamentals

#### 1.1.1.1.2.3 Job Opportunity

Graphic Designer

#### 1.1.1.1.2.4 Required Tools

Adobe Illustrator CS 4, Sound Forge

#### 1.1.1.1.2.5 Duration

120 hours

#### 1.1.1.1.2.6 Medium

English / Arabic

### 1.1.1.1.3 Diploma in Desktop Publishing

#### 1.1.1.1.3.1 Syllabus

Lab	Assignment
<b>Basics of InDesign</b>	
	Design principles of layout





Lab	Assignment
	Different styles of layout
	Standard sizes for magazines, Newspapers, Brochures
<b>Working Place</b>	
	Installation of InDesign
	Basics User interface of InDesign
<b>Workspace</b>	
	Workspace basics
	Customize menus and keyboard shortcuts
	Toolbox
	Viewing the workspace
	Setting preferences
	Recovery and undo
<b>Layout</b>	
	Creating documents
	Creating custom page sizes
	Rulers and measurement units
	Grids
	Ruler guides
	Pages and spreads
	Masters
	Layers
	Laying out frames and pages
	Numbering pages, chapters, and sections
	Text variables
<b>Working with documents</b>	
	Working with files and templates
	Saving documents
	Converting QuarkXPress and PageMaker documents
	Exporting
<b>Text</b>	
	Creating text and text frames Adding text to frames
	Importing text
	Threading text
	Text frame properties
	Editing text



Lab	Assignment
	Find/Change
	Glyphs and special characters
	Spell-checking and language dictionaries
	Footnotes
<b>Object styles</b>	
	About object styles
	Object Styles panel overview
	Define object styles
	Object style categories
	Apply object styles
	Use default object styles
	Clear object style overrides
	Rename an object style
	Edit object styles
	Delete an object style
	Break the link to an object style
	Redefine an object style
Import object styles	
<b>Tables</b>	
	Selecting and editing tables
	Formatting tables
	Table strokes and fills
Table and cell styles	
<b>Graphics</b>	
	Understanding graphics formats
	Importing files from Adobe applications
	Importing other graphics formats
	Placing graphics
	Managing graphics links
Object libraries	
<b>Drawing</b>	
	Understanding paths and shapes
	Drawing with the line or shape tools
	Drawing with the Pencil tool
	Drawing with the Pen tool
	Editing paths
	Applying line (stroke) settings
Compound paths and shapes	



Lab	Assignment
Transparency effects	Understanding paths and shapes
	Drawing with the line or shape tools
	Drawing with the Pencil tool
	Drawing with the Pen tool
	Editing paths
	Applying line (stroke) settings
	Compound paths and shapes
Creating Adobe PDF files	Exporting to Adobe PDF
Color	Understanding spot and process
	Applying color
	Working with swatches
	Importing swatches
	Tints
	Gradients
	Mixing inks
	Using colors from imported graphics
About Color Separation	Preparing to print separations
	Overprinting
	Previewing color separations
	Inks, separations, and screen frequency

#### **1.1.1.1.3.2 Eligibility**

MICIT or Equivalent course in computer fundamentals, Photoshop CS 4, Illustrator CS4 Print Media Trainee

#### **1.1.1.1.3.3 Job Opportunity**

Print Media Specialist and Graphic Designer

#### **1.1.1.1.3.4 Required Tools**

Adobe InDesign CS 4

#### **1.1.1.1.3.5 Duration**

120 hours

#### **1.1.1.1.3.6 Medium**

English / Arabic



#### 1.1.1.1.4 Diploma in Web Designing

##### 1.1.1.1.4.1 Syllabus

Lab	Assignment
Basics of web page design	
	Design Principles
	Color Scheme
	Aesthetics
	Usability
	Layout
	Navigation
	Typography
W3C Compliant	
Working Place	
	Installation of Dreamweaver
	Basics User interface of Dreamweaver
Interface	
	choosing a workspace
	document window & toolbars
	the document window
	the launcher
	the insert panel & tool sets
	the document toolbar
	the property inspector
	dockable floating panels
using contextual menus	
Site Control	
	defining a site
	file and folder management
	creating site maps
	using the file browser
create a site from nothing	
Basics	
	defining the site
	creating and saving documents
	inserting images with assets panel
	adding text
	aligning page elements
	modifying page properties
	creating links with text and images
adding keyword & description meta	



Lab	Assignment
	tags
	preview in browser
	define a secondary browser
<b>Linking</b>	
	link with point to file
	linking to new source files
	browse for file and link history
	anchor links
	email links
	file links
<b>Typography</b>	Image maps
	html text formatting
	font lists
	text alignment
	html lists
	color schemes
	text in tables
<b>Tables</b>	flash text
	character objects
	insert and modify a table
	fixed width tables
<b>Frames</b>	relative width tables
	insert tabular data
	sort table data
	create and save a frameset
<b>Rollovers</b>	setting frame and frameset properties
	links and targets in frames
	no frames content
	frames objects
<b>Cascading Style Sheets</b>	
	simple rollovers - insert rollover
	simple rollover - swap image behavior
	multiple-event rollovers
	flash buttons
	redefining HTML tags
	defining a custom class
	CSS selectors



Lab	Assignment
	CSS selectors to group tags
	linking to external CSS
	CSS reference panel
<b>Code</b>	
	editing in the code view
	code view options
	quick tag editor & attribute hints
	cleanup HTML
	cleanup word HTML
<b>Forms</b>	code validator / XHTML
	form objects
	creating a form
	creating a jump menu
<b>Behaviors</b>	introduction to JavaScript
	set text of status bar
	open browser window behavior
	downloading and installing extensions
<b>Automation</b>	
	history panel
	copy / paste history
	create web photo album
<b>Templates and Library Items</b>	templates in action
	creating / modifying templates
	library items in action
	creating / modifying library items
<b>Inserting Media Objects</b>	linking to sounds
	embedding sounds
	inserting flash content
	inserting director content
	inserting a QuickTime movie
<b>Get It Online</b>	
	putting files to the web server

#### 1.1.1.1.4.2 Eligibility

MICIT or Equivalent course in computer fundamentals, Photoshop CS 4, Illustrator CS4

#### 1.1.1.1.4.3 Job Opportunity

Web Designer



#### 1.1.1.1.4.4 Required Tools

Dreamweaver CS4

#### 1.1.1.1.4.5 Duration

120 hours

#### 1.1.1.1.4.6 Medium

English / Arabic

### 1.1.1.1.5 Diploma in 2D Animation

#### 1.1.1.1.5.1 Syllabus

LAB	Assignment
Introduction	introduction
	file types
	bitmaps vs. vectors
The Interface	the interface And all basic tools
Drawing and Color	drawing with the pencil
	modifying lines
	drawing with the pen
	the oval and rectangle tools
	free transform tool
	envelope modifier
	the brush tool
	using the mixer
	adding custom colors to color palette
	importing color palettes
	working with multiple objects
grouping objects	
Animation Basics	the timeline
	movie properties
	frames vs. keyframes
	deleting, copying, and reversing frames
	the frame rate
	testing movies



LAB	Assignment
Frame-by-Frame Animation	
	frame-by-frame vector animation
Shape Tweening	
	shape tweening
	shape hinting
	shape tweening text
	edit multiple frames
animating gradients	
Libraries, Symbols, and Instances	
	creating graphic symbols
	alternate methods to create symbols
	editing symbols
	editing symbol instances
working with the library	
Motion Tweening	
	basic motion tweening
	tweening effects
	edit multiple frames
	motion guides
	motion guide extras
motion tweening text	
Masking	
	masking
animated masks	
Type	
	text fields overview
	character panel
	paragraph options
	text fields explained
	device fonts
scrolling text	
Bitmaps	
	importing and compressing
	bitmap sequence
	bitmap fills
	breaking apart bitmaps
trace bitmap	
Buttons	
	button types





LAB	Assignment
	basic button
	rollover button
	invisible button
	adding ActionScripting to buttons
<b>Movie Clips</b>	
	what are movie clips
	modifying movie clip instances
	animated rollover button
<b>ActionScripting Basics</b>	animated masks using movie clips
	actions window
	time-based vs. user-based actions
	stop and play
	stop on frame
	slide show
	getURL
	creating a popup menu
	controlling movie clips (with)
	what are scenes
	what are preloaders
	building a simple preloader
	preloader resources
	what is loadmovie
loading a .swf	
loading a .jpg	
<b>Sound</b>	
	importing sounds
	the sound panel
	music on/off button
<b>Publishing</b>	buttons with sounds
	publishing content
	creating a projector
<b>Integration</b>	FS commands
	the bandwidth profiler
	Fireworks
Freehand	
Dreamweaver	



LAB	Assignment
	video
	illustrator
	transparent bitmaps
<b>Templates</b>	using the built-in templates

#### 1.1.1.1.5.2 Eligibility

MICIT or Equivalent course in computer fundamentals, Photoshop CS 4, Illustrator CS4

#### 1.1.1.1.5.3 Job Opportunity

2D Animator  
Flash Designer  
Interactive Multimedia Specialist

#### 1.1.1.1.5.4 Required Tools

Adobe Flash CS4

#### 1.1.1.1.5.5 Duration

120 hours

#### 1.1.1.1.5.6 Medium

English / Arabic

### 1.1.1.1.6 Diploma in 3D Animations

#### 1.1.1.1.6.1 Syllabus

LAB	Assignment
<b>Basics of 3D</b>	
	Comparison between 3d modeling and 2D
	Use of 3D in Industry, Gaming, Animations, Films
	Hardware requirements
<b>3dsmax environment</b>	Installing 3dsmax
	Understanding directory structure
	Optimizing for 3dsmax
	Workflow in 3d
<b>Overview of 3Ds MaxUI</b>	
	Using Menus Functions and controls.
	Introduction to Basic Tools.
	Introduction to Menu, sliding toolbar, command panel, animation



LAB	Assignment
	controls, Modifiers.
<b>Tool Bars</b>	Introduction to Main tool bar.
	Introduction Mirror, Alignment, Snaps, Grouping and un grouping objects etc.
<b>Introduction view ports</b>	Introduction of all the viewports.
	View ports navigation control.
	Basic controls : Move, rotate, scale.
	Construction planes.
<b>Introduction splines</b>	Creation of shapes : All basic shape in the panel
	Free hand drawing
	Modify Command : Edit spline
<b>Measuring techniques</b>	
<b>3d Primitives</b>	Unit setup, Grid & Snap, tape.
	Modeling using primitives
	Modeling using extended primitives
<b>Compound objects</b>	Modeling Using loft for Lofting two shapes
	Working on other option like Boolean , conform, scatter, connect, Shape merge etc
<b>3D Modeling</b>	3d modeling concepts i.e. mesh, poly, Vertices, Faces, Pivot etc
	Modify Command panel : Edit mesh
	Modify command panel: bend, twist, taper etc
<b>Materials textures and</b>	Introduction of material editor
	Creation of material using Ambient, Diffuse, Specular colors, self-illumination,
	Opacity, Shading types and applying material.
	Material library: Appling material from default library.
	Using Textures swatch like defuse map, bump map, specular map, opacity map,
	Giving reflection map etc.
Creating material library.	
<b>Basic Rendering</b>	Introduce the basic rendering option i.e. scan line in render panel and also the options in it.
	Rendering jpeg, tif, Video files



LAB	Assignment
Lights	Using Target/free Spot lights, Target direct/free direct, Omni lights option and controls
Camera	Using camera for walkthrough
	Use of Target/ free for setting various view ports Camera Modify panel,
	Camera Path for walkthrough.
Compositing scene	Setting up your scene , Placing of objects, Arranging lights, setting camera etc.
Animation	Setting key frames, Movements, Cameras and lights, Previewing the animation.

#### 1.1.1.1.6.2 Eligibility

MICIT or Equivalent course in computer fundamentals, Photoshop CS 4, Illustrator CS4

#### 1.1.1.1.6.3 Job Opportunity

3d Modeler, 3d Animator, Virtual Set Designer, Architectural Modeler

#### 1.1.1.1.6.4 Required Tools

3D Studio MAX 2010

#### 1.1.1.1.6.5 Duration

120 hours

#### 1.1.1.1.6.6 Medium

English / Arabic

### 1.1.1.1.7 Diploma in 3D Animation - Advanced

#### 1.1.1.1.7.1 Syllabus

LAB	Assignment
Advance Modifiers	3D
	Using advanced modifiers like Edit poly, FFF 2x2x2, Path deform, Surf Deform, ripple etc.
Advance Modeling	3d
	Nurbs Modeling, Character Modeling, Product Modeling



LAB	Assignment
<b>Advance Animation</b>	
	Using Inverse/Forward kinematics, animation with the use of linking objects
	(child & parent) Pivot adjustment, Link info.
	Exposure to the motion panel- trajectories and parameters.
<b>Advance material techniques</b>	
	Use of Blend, Double sided, Multi or sub object and ray trace material.
<b>Special Effects</b>	
	Particle effects:
	Super spray, snow, p cloud, super spray and all rollout options.
	Geometric/deformable and particles
	Fog, volume light with atmosphere apparatus in helpers
	Video post: For Mixing two sequences
Mixing two sequences and effects like Glow, Star field	
<b>Rigging</b>	
	Modeling character, Use of biped , Setting key for animating biped, setting foot steps in
	Biped, Use of physique modifier, Use of fins in the modifier like front fin back fin.
	Creating bone structure and link them. Using IK for bones.
<b>Techniques of Advance lighting</b>	
	Bouncing of lights Radiosity
	Global illumination
	What is fake Global illumination
Color bleeding (light tracer)	
<b>Advance Rendering</b>	
	Rendering files in tif format, getting output in targa sequence and other advance option in rendering panel
	Rendering for panorama output.
<b>Getting output in Mental Ray</b>	
	Introduction to Mental ray
	Settings in mental ray
	Creating caustics effects
	Glowing Material with Mental Ray
	Global Illumination with Mental Ray
	Rendering settings in mental Ray
And also other effects in mental ray	



#### **1.1.1.1.7.2 Eligibility**

MICIT or Equivalent course in computer fundamentals, Photoshop CS 4, Illustrator CS4

#### **1.1.1.1.7.3 Job Opportunity**

3D Modeler, 3D Animator, Character Rigger, Material Artist, Lighting Artist, Virtual Set Designer

#### **1.1.1.1.7.4 Required Tools**

3D Studio MAX 2010

#### **1.1.1.1.7.5 Duration**

120 hours

#### **1.1.1.1.7.6 Medium**

English / Arabic

### **1.1.1.2 Programming**

#### **1.1.1.2.1 Diploma in Programming in C**

##### **1.1.1.2.1.1 Syllabus**

##### **Programming Fundamentals**

##### **Basic Input / Output, Operators & Expressions**

##### **Control statements –**

- Decision Constructs – If... Else, Switch
- Iterative Constructs – For, While, Do...While

##### **Arrays –**

- 1D / 2D Arrays
- Strings
- Searching – Sorting Techniques

##### **Functions**

- Pass by Value
- Recursive Functions

##### **Structures and Unions**

- User Defined Data type
- Array of Structure
- Structure within Structure
- Structure Variables as function arguments

##### **Pointers**

- Simple Pointer
- Pointers & Arrays
- Functions – Pass by Reference
- Structure Pointers



- Pointers & Strings

#### **File Handling**

- Need of File I/O
- Data Read / Write – Character by Character
- Data Read / Write – Record by Record
- Database Management Features

#### **Computer Graphics**

- Setting & Drawing Lines, Circles
- Playing with Colors & Animation

#### **Data Structures using C**

- Stacks
- Queue
- Linked List

#### **1.1.1.2.1.2 Eligibility**

12<sup>th</sup> standard and MICIT or Equivalent course in computer fundamentals

#### **1.1.1.2.1.3 Job Opportunity**

C Programmer

#### **1.1.1.2.1.4 Required Tools**

Turbo C

#### **1.1.1.2.1.5 Duration**

120 hours

#### **1.1.1.2.1.6 Medium**

English

### **1.1.1.2.2 Diploma in Programming in C++**

#### **1.1.1.2.2.1 Syllabus**

##### **Programming Fundamentals Overview**

##### **Principles of OO Programming**

##### **Basic Input – Output in C++**

- Decision Constructs – If.. Else, Switch
- Iterative Constructs – For, While, Do...While

##### **Arrays & Strings**

##### **Functions**

- Function Prototyping
- Call by Reference
- Inline Function
- Default Function Arguments
- Virtual Function



## **Structures**

### **Classes & Objects**

- Class & its Members
- Access Specifier – Public & Private
- Objects & Memory Allocation for it
- Static Data Members
- Array of Objects
- Functions – Friend, Const Member Function

### **Constructor & Destructors**

- Default Constructor
- Parameterized Constructor
- Copy Constructor
- Destructor

### **Overloading**

- Function Overloading
- Operator Overloading – Unary, Binary

### **Inheritance**

- Derived Classes
- Single Inheritance
- Protected Members
- Multiple Inheritance
- Multilevel Inheritance
- Hybrid Inheritance
- Virtual Base Class
- Abstract Class
- Constructor in Derived Class

### **Polymorphism**

- Pointers to Objects
- This Pointer
- Pointers to Derived Classes
- Pure Virtual Function

### **File I / O**

- Working with Files
- Classes for File Stream Operation
- File Pointers & Manipulations

### **Templates & Exception**

- Class & Function Templates
- Template Arguments
- Exception Handling





#### 1.1.1.2.2.2 Eligibility

12<sup>th</sup> standard and MICIT or Equivalent course in computer fundamentals

#### 1.1.1.2.2.3 Job Opportunity

C ++ Programmer

#### 1.1.1.2.2.4 Required Tools

Turbo C ++

#### 1.1.1.2.2.5 Duration

120 hours

#### 1.1.1.2.2.6 Medium

English

### 1.1.1.3 IT for Teachers Diploma

#### 1.1.1.3.1 Syllabus

IT for Teachers	
Topic	Lab
Word Processing	Overview of Word Processing
	Creating and Editing a Document
	Exercise 1 - Creating a Notice
	Revising and Refining a Document
	Exercise 2 - Revise your notice
	Using Additional Word Features
	Exercise 3 – Creating a notice for different classes
	Changing the Display of the Document
	Exercise 4 - Changing display of your notice
	Using Mail Merge
	Exercise 5 – Sending a notice using mail merge
	Using Standard Templates
	Exercise 6 – Create a notice using standard templates
	Word Processing in Other Languages
Exercise 7 - Creating a notice in Local Language	
Spreadsheet	Overview of Excel
	Creating and Editing
	Exercise 1 – Creating an Attendance Sheet
	Using Charts
	Exercise 2 – Creating a Chart
	Managing a Workbook



	Exercise 3 – Managing the attendance sheet
<b>Presentation Graphics</b>	Overview of Presentation Graphics
	Creating a Presentation
	Exercise 1 – Creating a Annual Day Presentation
	Modifying and Refining a Presentation
	Exercise 2 – Modifying and Refining the Annual Day Presentation
	Using Advanced Presentation Features
	Exercise 3 – Using Advanced Features for Annual Day Presentation
<b>Internet</b>	Internet Basics
	Navigating the Web
	Exercise 1 – Navigating the web site
	Finding Information on the Web
	Exercise 2 – Finding result on the Web
	Communication Using E-Mail
Exercise 3 – Communicate result to your friends	
<b>Database Management Systems</b>	Overview
	Creating a Database
	Exercise 1 – Creating a Student Database
	Modifying a Table
	Exercise 2 – Modifying a Student Database
	Creating Forms
	Exercise 3 – Creating a Form for Student Database
	Queries and Reports
	Exercise 4 – Creating a Report for Student Database
	Protecting the Database
Exercise 5 – Protecting a Student Database	
<b>e-Instructional Designing</b>	Learning
	Learning Theories
	Structured Learning
	Instructional Design Theories
	Instructional Design Models
	Designing Learning
	Learning Through Interactive Media
	Components and Elements of Multimedia
	Types and Development of Multimedia
	Developing Content for Multimedia
	Implementation
	Evaluation
Workshop	
<b>Storyboarding</b>	Pre-requisites
	Objectives



	Concept
	Need / Purpose
	How to read storyboards
	Instructions to the developers- Overview
	Exercise

#### 1.1.1.3.2 Eligibility

Graduate and MICIT or Equivalent course in computer fundamentals

#### 1.1.1.3.3 Duration

120 hours

#### 1.1.1.3.4 Medium

English / Arabic

### Contact Information

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