

## **Information Technology Tites**

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## AUTO CAD - Design

### Course objectives:

**On completion of this program the trainee/s will be competent in:**

- The skills and knowledge required to competently design in two and three dimensions applications using AutoCAD techniques using design according to their own company requirements and produced to required specifications. **Software Package: 2 D Studio R 14, 3 D Studio, Auto vision Render and Animation**
- Modeling and shading the drawings.
- How they can get maximum use from both design techniques
- How to service end users needs to include, planning and production of designs for Mechanical and Civil Engineering.

***(Trainees must have at least some experience in Technical Civil and Mechanical Engineering Drawing and one years experience in Computer Operations).***

**Course Duration:** Twenty Days

### Course Contents:

- Introduction to Hardware and software applications
- Introduction CAD basics, AutoCAD for Windows Interface
- Drawing aids, Drawing units, Object selection methods
- Auto CAD and the graphical user interface environment
- Simple Draw, Erase and Display, Pick, Window, Crossing Window,
- Window Polygon, Crossing Polygon, Remove, Add, Fence, Filtering
- Object selection, Coordinates, Elaborating on Object SNAP Tools
- Overrides, Running Object SNAP Models, Permanent Object Snap Modes
- Layer concept, Prototype Drawing concept, Two Dimensional Drawing
- Setting Drawing Scale and Units in Prototype
- Drawing Practice, Prototype Drawings, Learning Basic Commands
- Good House Keeping, Recovering from Mistakes
- Creating a simple Drawing as a prototype drawing
- File Management commands
- More on LINE, CIRCLE, OFFSET, MOVE commands
- Display Controls (using the standard toolbar), Building Essential Knowledge with the new commands from the Modify toolbar

- Trimming Objects - TRIM Command, Extending Objects - EXTEND Commands
- FILLET and CHAMFER Commands, Erasing Objects
- Improving a simple as a prototype drawing
- Setting Layers Using the Layer Command, Naming Layers, Creating Layers
- Using Layers, Managing Layers
- Lines Types: Text and Symbols, Loading Line types, Creating Line Types
- Working with Polylines, Text Fundamentals and Text Related Commands
- Blocks and Groups, Construction Tools Drawing Donuts, Drawing Dimensions
- Attributes, Customization / Configuration
- Getting Information about your Drawings, Sample System Configuration
- Medium Size Projects, Review of Capabilities
- Producing arrays of entities, Further Drawing Elements - Circles, Arcs, Polygons
- Isometric Drawings, Line Styles, Colors, Texts - Styles, Justification
- Simple Dimensions, Polygons, Hatching, Layers, Blocks
- D Coordinate System, D Wireframe, Surfacing Solid Modeling
- Plotting, Creating and storing slides, Plotting drawings (options and parameters)
- Adding text to the drawing, Text in Arabic and English applied to the drawings
- Dimensional drawing and styles, Dimensionable variables and application
- Working with blocks and layers, Creating a symbols library
- Modeling types, Coordinated systems for VCS
- Drawing in 3 – D, Auto CAD tools, Auto CAD Analysis
- Production methods, Auto shading, Auto CAD applications and programming
- 3 - D in project work, Planning and Project Analysis
- Liaison with end users, Collection of information, Storage of information source
- Organizing and priority setting
- Design Project
- Presentation of Design Project

**Who Should Attend:**

Mechanical and Civil Design Engineers and those who are responsible for the Design Drafting process at the Design stage.

## Computer Applications (Windows & MS Office)

### Course Objectives:

**On completion of this program the trainee/s will be competent in:**

- Application in Microsoft Windows Environment
- Microsoft Office 2000 Applications, including Microsoft Office Tools including:
  - Word 2000
  - Power Point
  - Excel
  - Outlook Express
- Utilizing the PC as a tool for industrial and commercial applications.
- Internet Utility
- Email System and Usage of Communications Capabilities

**Course Duration:** Five Days

### Course Certification:

Course carries MS certification in the applications covered.

### Course Contents:

- Introduction to Information Technology & Computer Concepts:
- Windows 2000: Using Interface, Working with Windows Environment, Managing Files and Folders, Customizing Windows 2000, Other Features
- What is Windows: Using File Manager, Creating Your Own Program Groups, Accessories, Customizing Windows Set Up, Controlling Printing
- Microsoft Word for Windows: Introduction to Word Using Documents, Working with Text, Formatting Paragraphs, Auto Text
- Formatting the Page, Tables, Using Mail Merge, Applets, Useful Facilities

- Microsoft Excel: Using Spreadsheet, Building and Editing a Worksheet
- Formatting and Editing a Worksheet, Printing and Page Layout, Formulas
- Functions, Charting, Data Lists Managing Workbooks
  
- Microsoft Access: Database Concepts, Using Access Help and Cue Cards
- Designing / Creating a database, Creating Queries, Performing Calculations in Queries, Reports, Data Entry Forms, Creating / Querying Tables, Controls and Control Properties
  
- Microsoft Power Point: Introduction to Graphics, Using Graphics, Working with Text, Enhancing Text, Overview of Drawing Facilities, Overview of Charts Using the Slide Show Facility for Presentations
  
- **Microsoft Explorer:** Introduction to and utilization of Internet for Business and Communications, Including Security, Educational Purposes and Internet Assistance.
  
- **Microsoft Outlook:** Introduction to and full utilization and efficient usage of Application for Communications for Business and Private usage, Including set up of Email account, Anti Virus Definitions, Security and Email Management Systems. Sending Documents and Attachments, JPEG, TIF Files etc.
  
- **Computer Technology Awareness:** Including Further Computer Industry Developments and how to keep up to date with new arrivals and events.

### **Course Support:**

One PC per person required with appropriated software with Windows 2000 and associated MS package.

## **Data Communication Essentials**

### **Course Objectives:**

This course is designed to provide the basic knowledge and understanding of Data networks systems and the integration of data networks with the Internet.

**Course Duration:** Five Intensive Days

### **Who Should Attend:**

Networks and Technicians who will be involved with setting up data communications transmissions and maintaining the systems needs.

### **Course Outline:**

#### **Overview of Data Communications and Networking (DCN)**

- Why is Data Communications ?
- Basic Definition of DCN
- Need for DCN
- Types of Communications Networks
- Course Overview

#### **Fundamentals of DCN**

- Basic Communications Model
- Analog vs Digital Signals
- Communication Channels and Bandwidth
- Broadband vs. Baseband
- Baud rate vs. Bit rate
- Simplex, Half and Full Duplex Operations
- Transmission Media

#### **Analog Transmissions**

- Data Encoding and Decoding
- Modulation Techniques
- Types of Modems

## Multiplexing Techniques

### **Digital Transmissions**

- Advantages of Digital Transmissions
- Digital Signaling and Digitization
- Asynchronous and Synchronous Transmission
- Parallel vs. Serial Transmission
- RS-232 Interface
- Null Modem Interface

### **Network Architectures and Standards**

- Early Networks in the 1970s
- Importance of Standards
- Standards Organizations
- Networking Model
- ISO OSI Reference Model
- Encapsulation and Decapsulation

### **Data Link Layer**

- Data Link Layer Functions
- Error Detection and Correction
- Data Link Layer Protocols
- LAN Data Link Sublayers
- Example - IEEE 802.3 Frame

### **Network Layer and Routing Protocols**

- Network Layer Functions
- Network Addressing
- Functions of Routers
- Network Routing
- Routing Protocols and Routing Table

### **The Internet Architecture**

- Overview of TCP/IP
- Comparison of TCP/IP with OSI

Protocol Formats  
IP Subnet  
TCP/IP Application Protocols  
Next Generation of IP

## **Local Area Networks (LAN)**

Definition of LAN  
Basic LAN Topologies  
LAN Standards  
LAN Access Methods  
Emerging LAN Technologies

## **Wide Area Networks (WAN)**

Characteristics of WANs  
Packet Switch vs Circuit Switch  
Dialed vs Dedicated Circuits  
Packet Switched Networks  
X.25, Frame Relay, ISDN and ATM  
Benefits of ATM  
WAN protocols

## **Internetworking**

Internetworking devices  
Internetworking challenges

## **Network Management**

Network Management Model  
SNMP  
ASN.1  
RMON

- **Case studies**
- **Exercises**
- **Group discussions**
- **Course Evaluation**
- **Course summary**

## Data Warehousing

### Learning Objectives:

- Data, information and knowledge
- Business justification
- Data warehouse and data Marts
- Relevant hardware and software trends
- On-Line Analytical Processing (OLAP)
- Data mining
- Planning, Managing and implementing a data warehouse
- Operational data store

### Who Should Attend:

- IT Managers, Technical Managers, PC Support Specialist and Communications Analysts in organizations implementing, or planning to implement, large scale windows NT applications. Vendors of NT based solutions for the large enterprise should be represented, as should Consultants working on NT.
- Managers in organizations that are installing a data warehouse and “need to know”.
- MIS staff involved in decision-making re-investments in data warehouses.
- Project Planners evaluating warehouse products and suppliers.
- Business analysts who need to understand the possibilities and problems of the technology.
- Market planning and product development in supplier organizations.

### Daily Course Contents:

#### First Day:

- **Data processing systems and standard queries/reports**
- Office automation
- Ad-hoc query concepts
- Information database and knowledge workers

- **Internal and external data sources**
- What is a data warehouse?
- Why invest in a data warehouse?
- Examples of data warehouse applications
- Business justification

### **Second Day:**

- *Client/server computing and PCs*
- Accessing Data via SQL and CDBC
- Comparison of data requirements for production and information systems: conflicts
- Summarized or detailed data?
- Integrating production systems with a data warehouse

### **Third Day:**

- *Two vs. n-dimensional queries*
- SQL vs. On-Line Analytical Processing (OLAP)
- A common, central data warehouse
- Data Marts
- Multiple data Marts
- Combined central warehouse with Data Marts
- The Enterprise Data Store: all in one?
- The Operational Data Store: a migration path
- Structuring the Data Warehouse: data base scheme

### **Fourth Day:**

- PCs:
- Hardware
- Operating systems
- The impact of the Internet and Network Computers (NC)
- Servers:
- Symmetric Multi-Processor (SMP)
- Parallel Processor
- Mainframes
- Fault tolerance
- Databases
- The World Wide Web: browser based interfacing

### **Fifth Day:**

- *Metadata and repositories*
- Copy management:
- Consistency
- Quality of data
- *What data is needed?*
- What data is available?
- GroupWare and workflow: activating change
- Customer facing applications

### **Sixth Day:**

- SQL query tools:
- ODBC
- Stored Procedures for regular queries
- Relational vs. OLAP databases
- Relational OLAP (ROLAP)
- ROLAP servers vs. Multi dimensional OLAP databases
- End – user programming tools with ODBC
- Executive Information Systems (EIS)
- *Decision Support Systems and modeling tools*
- Data mining
- Software agents

### **Seventh Day:**

- Planning a data warehouse:
- What do users want?
- Project Management/Cost/Business justification/ Ownership/  
Staffing/Security
- Resolving conflicts
- Performance issues
- Archiving and recovery

### **Eighth Day:**

- **Costs associated with a data warehouse**
- Separate Production/ data Warehouse DBMS
- Enterprise Database Server
- Relational vs. OLAP vs. ROLAP
- Database Futures

## E-Commerce in Action: Sales Force & Marketing Automation using Web Technologies

### *Introduction to the Internet*

#### **Internet and Intranet Business Applications**

- Using the Internet to reduce costs and improve communication
- Gathering business and technical information
- Establishing a World Wide Web site to promote your business
- Newsreaders, NNTP, threading
- Moderated vs. unmoderated groups
- Frontends: Netscape Communicator, Free Agent, Outlook Express
- Downloading and uploading binary files
- Obtaining free software and shareware
- Binary vs. ASCII transfers
- Unpacking PKZIP archives

#### **The World Wide Web**

- Installing and configuring the Web browser
- Uniform Resource Locators (URLs)
- Configuring multimedia: MIME types
- Adding plug-ins and helpers
- Exploiting Push Technology
- Webcasting, channels and Webtops
- PointCast, CDF, Netcaster, Castinet

#### **Search Strategies /Utilizing Business Sites**

- Search procedures and approaches
- Exploiting Web search engines
- File archives and yellow pages
- Domain name (DNS) and WHO'S searches
- Internet white pages: FOUR11, IAF
- Directory services: LDAP, ICQ, ILS, AOL
- News and publications
- Economy and financial markets
- Finance and investment

#### **Establishing a Presence on the 'Net**

- Installing FTP, e-mail and Web Servers
- Basic Internet infrastructure

- Choosing a platform and server software
- Installation and configuration: PWS
- Intranet issues and technologies
- Web page editors
- Creating and managing content
- HyperText Mark-up Language (HTML)
- Basic formatting: lists, tables, frames
- Adding images, sound and animation

### **Accessing the Internet**

- Dialup options: CSLIP, PPP, xDSL, cable TV
- Dedicated access: leased line, ISDN, T1
- Obtaining IP addresses and domain names
- Evaluating Internet service providers

### **Internet Technology Trends**

- Finding information on the latest trends
- Increase in bandwidth demands
- Solutions to the IP address problem

### **E-Commerce and the World-Wide-Web**

- What is E-commerce and how will it impact the way we do business?
- Global business growth through E-commerce
- Details of various categories of businesses with updated figures and reports
- Comparison of traditional business approaches to that of the internet
- Growth potential in the Consumer Electronic Bill payments worldwide
- Future expectations on the evolution of full Internet services
- Expected growth rate of E-commerce
- Which activities pilot E-commerce in the region: shopping, retailing, etc.
- Online Sales are soaring (Financial Services, Apparel, hardware/ software, entertainment, Travel ...etc.. Why not your business!!
- Your business structure
- Selecting your business partners
- Business-to-business sale
- How to reach your clients. Bringing together buyers and sellers
- Techniques of selling just everything

### **Problems and Pitfalls**

- Ensuring security aspects of implementing business on the Internet
- Mode of payments: Fears and justifications on Credit Card Nos. on the Internet, protecting valuable company information
- New technology under development to make Internet safe for E-commerce
- Availability and cost of these technologies

## Electronic Document Management Systems (EDMS)

### Course Objectives:

**On completion of the course the trainee/s will be competent in:**

- The basic technology of available Image and Document Management Systems.
- How the system can increase productivity.
- How to select the most suitable system for their organization.

**Course Duration:** Three Days

### Course Contents:

- Introduction to and the comparisons of Manual and EDMS Systems
- Production and Storage of Manual Records
- Indexing Systems, Filing , Retrieval and Archiving
- Control of Document and Flow Systems
- Electronic Document Control
- Document Process and Image Capture
- Electronic Image Storage, Indexing and Retrieval
- System Maintenance
- Optical Storage Systems
- Optical Drivers
- Juke Box
- Storage Methods
- Introduction to output systems and printing
- Plotters & Scanners
- Table Top & Ink Jet
- Computerized Systems
- Computer Output to Laser Disk ( COLD )
- Introduction to Software Available in the Market
- Work Flow Systems
- Windows Environments
- Open Architecture
- Case studies, discussion periods and exercises

### Who should attend:

Potential and existing Document Managers, and Office Administrative Managers.

## IT Project Management

### **Introduction:**

When new or existing technology is applied the Project Manager/ Leader needs to ensure that prior to going live the Project meets the expectations of the client/ customer so all technology is integrated and fully operational. Leading up to this the Project Manager / Leader must also ensure that all team members are briefed and that all the necessary designed computerized systems and software are suitable and available and are fully costed.

The project needs also to be fully monitored and controlled during all stages and that the necessary tools for start up and implementation are in place. This requires certain techniques and awareness that are paramount to a successful project conclusion to client/customer satisfaction.

The s designed to develop those skills and abilities and includes interactive explanations using graphical and practical examples. Group activities includes discussion of case study and group solutions and problem solving.

### **Course Objectives:**

**This course is designed to give the participants the skills and knowledge in:**

- The skills required ensuring success of projects involving Information Technology Systems life cycle, which is either new or being developed, enhanced or upgraded.
- Project feasibility, Implementation and completion techniques
- The various stages of planning, organizing and controls applied to the process and how each stage is successfully completed
- Developing their communications skills to direct and motivate the project team

**Course Duration:** Five Days

### **Who Should Attend?**

Project managers, project leaders, and other personnel who would play a leading role in IT projects.

## Daily Course Contents:

- Project managers role and responsibilities
- Defining a project
- Project structures
- Managing projects, the project management life cycle
- Project working structure
- Objectives and strategies
- Project management in a business environment
- Scoping the project and setting markers
- Prioritization and delegation
- Project feasibility and justification
- Project definition and terms of reference

## Day One

- Development options including software and
  - rapid development systems
- Cost V's benefits in project analysis
- Risk management techniques
- Identification of risks
- Risk analysis V's benefits
- Reducing risk exposure
- Monitoring and control techniques
- Project planning activities
- Project flow charts analysis
- Project costing and budgeting
- Contingency planning methods
- Control systems and monitoring
- Communication techniques
- Team leadership skills

## Day Two

- Identifying team roles and responsibilities
- Team performance
- Line and matrix methods
- Quality processes
- Change and cost controls
- Progressive controls and checks
- Change aspects and resistance to change
- Situations Anticipation and Handling

### Day Three

- Management styles
- Team Motivation and Performance
- Successful completion and handover
- Case studies,
- Group Interactivity
- Discussion
- Course Evaluation
- Course Summary

### LAN & WAN Management

#### Course Objectives:

On completion of the course the trainee/s will be competent in:

- Understand the LAN & WAN environments and the basic of systems management involved.
- Ability to assess LAN & WAN structures and make recommendation's for operational needs.

**Course Duration:** Five Days

**Course Contents:**

- LAN overview, LAN hardware, LAN standards
- Transmission media
- Ethernet overview
- Token Ring overview
- User application software
- DOS
- DBMS applications
- LAN Operating systems software
- Overview and functions
- Multi-tasking
- Network planning
- Network needs analysis
- Site survey & Cost analysis
- Designing the Network
- Design guidelines technologies for executives
- WAN introduction and concepts
- WAN design, considerations, interfaces and configuration
- Protocols
- Topology
- WAN Planning and implementation
- WAN System maintenance, trouble shooting
- WAN enhancements
- Case studies, discussion and exercises

**Who Should Attend:**

Network and systems and project managers, also responsible for system maintenance

**LAN Optimization & Trouble Shooting**

**Course Objectives:**

**On completion of the course the trainee/s will be competent in:**

- Efficient LAN Optimization and Trouble shooting techniques.



- The tools involved for LAN system maintenance and effective user operations.

**Course Duration:** Five Days

**Course Contents:**

- **Introduction and Overview**

***Review of LAN Concept and Theory***

- Topology, Media
- Access Methods

***LAN Standards***

- IEEE 802 Standards

- **LAN Troubleshooting Techniques**

**A structured trouble shooting approach**

- Prevention, detection, diagnosis, correction, recovery
- Dividing LAN into testable unit
- Regular Monitoring of Systems verification of Tests
- Symptom recognition

- **LAN Troubleshooting Tools**

**Hardware Tools**

- Standalone network analyzers and PC based Analyzer Cards
- Time Domain Reflectometers (TDR), Cable  
Xxx ?

**Software Tools**

- **PC Diagnosis, Checkit Pro, QA plus**
- **LAN Protocol analyzer, LAN Watch, LAN Analyzer for Windows**

- **Installation Trouble Shooting**

**Verifying the LAN cabling**



- 10Base2, 10Base5, 10BaseT
- Token ring network
- Using cable scanner for cable verification

### **Installing Network Interfaces Card**

- How to Insert NIC cards safely and correctly
- Verifying hard and software strapping
- Resolving Software conflicts with other Board

### **LAN Protocols**

- Protocol Stack Component
- TCP/IP, UDP, FTP, SNMP
- IPX, SPX, NCP, NETBIOS
- Configuring multiple-protocol

### **Driver Standard**

- Open Data-Link Interface (ODI)
- Network Driver Interface Standard (NDIS)
- **Editing configuration files**
- NE,CFG, PROTOCOL, INI
- Multiple Frame Type Problems
- Ethernet II, 802.2 802.3 SNA

### **Network Operating System**

- **Setting Network Operating System Option**
- **Problems Introduce by updates, patches**
- **Peer –to- Peer and Client – Server**

### **Network Hubs**

- **Incorrect configuration / setting**
- **Port enable / disable**
- **LED lights status**

### **Environmental Concerns**

- **Incorrect power rating**
- **Power Surge, sage**
- **Back up power source, UPS, Generators**
- **Ventilation, temperature issues**

## **LAN application problems**

- Access rights to files and programs
- Security Control
- Installation program making incorrect assumptions

### ➤ **Expanding The LAN**

## **Bridged LANs**

- When to use repeaters, bridges and routers
- Optimum bridge positioning in the LAN
- Spanning tree routing

## **Problem Isolation in the extended LAN**

- Packet filtering
- Partitioning the LAN
- Spread the load

## **Adding applications and services**

### **Allocating resources**

- Observing network traffic
- Monitoring resource utilization

### ➤ **LAN Maintenance**

## **Planning for continuous services**

- Providing alternate paths
- Maintaining back up system
- Planning for growth

## **LAN Management indicators**

- Prevention rather than cure

## **Planning for Disaster Recovery Procedures**



- Planning
- Alternate processing site
- Documenting recovery procedures
- Maintaining sufficient off site backup
- Testing the recovery procedures

#### ➤ LAN Optimization

##### **Performance of LAN component**

- Cabling system
- NIC, server, workstation
- Network Operating System

##### **NetWare servers tuning**

- Processor, memory, disk, NIC
- Setting right parameters

#### **Who should attend:**

Potential or existing LAN systems managers and LAN Engineer's.

### **Managing Information Technology**

#### **Course Description:**

Rapid changes of technology toward the end of this millennium has meant, that every person who lives and works in developed Information Technology countries have effected by those changes. Companies who are in contact with these changes have found the way to ensure their business in good shape to cope with more anticipated IT 'Jumps'. How do these changes affect the employees and how do they learn to adapt to new roles demanded by the Information Technology Processes. How does a company decide when changes should be implemented, what the benefits are and what impacts will occur. The issues are at the prime concern of most organisations that must keep in step with IT and need to remain competitive.

Whether you are involved with, IT induced sales, production, administration or other key company activities in the company this will affect you.



This program is designed to highlight and address these issues and assist in coping with a holistic approach to the areas, which overlap, into various departments and functions.

### **Learning Objectives:**

This program will give the leading the attendees the leading edge technology  
.....

### **Who Should Attend:**

This course is designed for IT managers, officers and other organizational members who require to be in touch with technology issues and utilize the available IT developments to their advantage.

### **Daily Course Contents:**

#### **First Day:**

- **Preparing the Organization for the Twenty First century**
- How it will ensure that business will never be the same again. New thinking on organizational size, types of people, types of work, economic relationships, time to ....

#### **The Information Systems Department of the 21<sup>st</sup> Century**

- How the ISD will be staffed, managed, funded and measured
- New Types of people and new skills required
- Defining new rules of IT aligning corporate and IT strategies
- Automate, informate and transformate systems
- The role of integration and cross - functional data and systems
- ..... ICD
- ISD Productivity and Core competences

## **Second Day:**

- **IT Investments**
- Tangible and Intangible benefits
- Cost Policies and level of funding
- Outsourcing and right sizing as strategic decisions

## **Strategic Information Systems (SIS)**

- Vision, mission, objectives, strategies, critical success factors, key performance indicators
- Enhancing the value package and ensuring it's delivery
- Using the value chain, strategic matrix and strategic options generator
- Value package propositions and delivery mechanisms

## **Third Day:**

- **Business Process Transformation**
- The need to innovate
- IT as an enabler – the ten fold benefits issue
- The .....

## **Focusing on Business Processes**

- Core business competencies
- Identifying key processes
- Using process modeling
- IT support for key processes
- Using alignment procedures

## **Business Process Management**

- Implementing the new processes
- Business .... Management and Workflow

## **Strategic Business Communications and Networks**

- Value added partnerships through applying communications technology
- Deepening the value – the chain analysis through the sales cycle and inter-organizational systems
- Deepening the sales cycle analysis through ....



- Sense and response systems

### **Fourth Day:**

#### **Managing Change**

- How to initiate an IT change program
- How to control IT induced change
- Establishing partnerships with users
- How to ensure that benefits are delivered
- Approaches to system ownership

#### **Commercializing the IS Function**

- Focusing on IT benefits and reducing costs, funding the ISD and business strategy
- Marketing the services of ISD

#### **IT Investment, Costing and Transfer Pricing Policies**

- Cost / benefit analysis, value for money information economies and user satisfaction
- IT Benefit management and to maximize IT benefit effectiveness
- How to conduct an IT performance audit and .....

### **Fifth Day:**

#### **Corporate and ISD Structure**

- How developments in IT have changed the structure of both the ISD and the organization as a whole
- Centralization Vs decentralization and the emerging federalization concept

#### **IT Policy Development**

- Making IT relevant to the whole organization
- Steering committees, IT officers .... Benefits managers
- Integrating conflicting issues and interest with the organization

#### **IT and Management Imperatives for the 21<sup>st</sup> Century**

- IT governance
- Adequate resource allocation
- Rapid systems development processes
- Hybrid organization structures



- Partnership development
- Reskilling
- Project management
- Benchmarking

### **Program Support:**

***This program is supported by full multimedia presentation from CD platform which combines videos and commentary from top executives in companies who have implemented various techniques demonstrated in this program.***

## **Software Quality Assurance (SQA)**

### **Introduction**

- Defining software quality
- What are the functions of software quality assurance
- Types and levels of software quality assurance
- Total quality management (TQM) principles for software, applying the proven techniques from other disciplines

### **Understanding the various roles of Software Quality Assurance**

- The user's view point - why should customers insist that effective SQA is carried out?
- The manager's view point - using SQA to gain essential management insights and access technical details
- The developer's view point - SQA to minimise repetitive work and waste

### **Defining and examining the software quality standards**

- ISO 9000-3 using the international standard as a basis for your quality Program
  - organisation themes and topics of ISO 9000-3
  - what does it really require?
  - relationships to other ISO standards
  - ISO 9000's role in the world market place
  - preparing for and achieving ISO 9000 registration
- Common standard themes and requirements

## The software development progress and quality quality activities

- Requirements analysis: identifying the real problem(s)
- Design: ensuring that the solution is right
- Coding: continuing to build-in quality
- Testing: confirming that the right job has been carried out properly
  - Delivery: maintenance and support
  - Alternative development processes the advantages and disadvantages
  - Conventional: much criticised but often the best approach
  - Prototyping: good for reducing risk but with very real hazards
  - Evolutionary: getting the user involved early in order to resolve uncertainties
  - Other processes: selecting the combination that works best for you

## Organising for Software Quality

- Establishing and maintaining independence
- Organisational alternatives
- Staffing your software quality assurance Program

## Quality Assurance techniques

- Document review and approval
  - What needs to be documented and why? Documentation is a benefit not a burden
  - Effective document review procedures
- Formal design, reviews and audits
- Peer reviews, walk throughs and inspections
- Process audits -ensuring people do what they say they will do
- Problem reporting and corrective actions
- Quality assurance tools - reducing the dependence on expensive labour
  - Types and sources of tools- a growing collection to help ensure SQA's greater efficiency and effectiveness
  - Tool effectiveness - assessing which tools are effective and which are not

## *The Software Quality Assurance plan*

- Relationship to the organisations quality policy
- The content and preparation of a typical plan - a generic policy that can be tailored to attain an ISO 9000 compliant policy and that meets with your needs

- Use and tailoring of checklists
- Software management and quality metrics: process metrics, product metrics

**Who Should Attend:**

This Course is designed for Systems / Software Managers and Developers; Systems Architects; Software Quality Assurance Managers; Software Development Managers; IT Strategists; Computer Programmers Software Consultants.

**Strategic Networking**

**Course Description:**

**Learning Objectives:**

**Who Should Attend:**

The program is designed for

**Daily Course Contents:**

**First Day:**

- **Reconceptualizing Global Networks :**
  - A Radical View of Networks
  - Global Competition
  - The Japanese Impact
  - Third World V's Developed Countries

**Second Day:**

- **Strategic Networking in Perspective**
  - Risks
  - Traditional View of Information : Technology IT
  - Strategic View of IT

- Case Studies: Hospitals, Airlines, Manufacturing
- The Emerging Chief Information Officer
- **Strategic Networking Vision**
  - Some Companies Have it – Do you
  - Can it be Developed
  - Two Case Studies Credit Reporting and Banking

### **Third Day:**

- **Value Added Partnerships**
  - Definition
  - Value Added Chains
  - Targeting Customers, Suppliers, Allies and Competitors
  - An Extended Case Study: Warehousing and Distribution

### **Fourth Day:**

- **Cost Justification of Strategic Networks**
  - Is Cost Justification Possible ; Justifiable
  - Traditional Financial Techniques : e.g. Pay back Analysis
  - The Value and Power of Information
  - Life Cycle Analysis
  - Increasing Productivity and Networks

### **Fifth Day:**

- **Strategic Alternatives**
  - Computers ... of Information era ?
  - The Crucial Role of Market Share
  - Selecting the right Project
  - Five Strategic Thrusts
- **Strategic Thrusts**
  - Innovation
  - Differentiation
  - Growth
  - Cost
  - Alliances
  - Examples and Case Studies
- **Strategic Advantages through the Sales Cycle**
  - Defining The Sales Cycle
  - Asking and Answering the Right Question
  - Examples and Case Studies

- **The Perfect Product**
  - What is the Perfect Product
  - Competitive Advantage Through Time and Form
  - Mass Production Vs Customization
  - A Synthesizing Case Study
  
- **Opportunities for Failure**
  - Find Out Mistakes Others Have Made
  - How to Avoid those Costly Mistakes
  
- **Creativity**
  - Creativity Defined
  - Examples and Case Studies
  
- **Strategic Networking Vision at its Best**
  - Universal Information Services and their Implications
  - The Future of the Global Train ?.

**Program Support:**

This program is supported by full multimedia presentation from CD platform which combines videos and commentary from top executives in companies who have implemented various techniques demonstrated in this program.

## Strategic Planning Using Information Technology

### Course Description:

Every organisation, whatever sector it is operating in and whatever its size needs some form of strategic outlook if it is to develop and grow or even to maintain its current position in its chosen markets. Therefore a clear business strategy using the latest technologies and methodologies becomes an essential element for organisational growth and development.

Information Technology (IT) is accepted as an umbrella term for a rapidly expanding range of equipment, applications, services and basic technologies; to help forcing the pace of change in industry, commerce, government and every day living.

In an attempt to provide today's managers with the latest applications of Information Technology (IT) in the Strategic Planning stage of the workflow; This program is designed to provide participants with adequate and extensive knowledge so as to effectively manage the most important elements of the business.

This course is designed to assist the participants on how to develop a strategic management framework for their projects, taking into consideration the internal and external environments; project objectives and strategies; project control and implementation; evaluation; monitoring and control; and perhaps most importantly the maximum use of Information Technology

### Learning Objectives:

- To provide a practical understanding of the IT applications, including intangible benefits.

- To explain the many benefits that may be used to justify strategic planning and related strategic investment goals.
- To understand the strategic management and frameworks for strategic development.
- To explore how strategic development provides a mechanism for examining and developing the organisation in the context of all the factors which affect it, both internally and externally
- To explain how clear strategy forms the basis of a monitoring and control system against which success can be measured.
- To give participants a full understanding on the use of Business Process Re-engineering (BPR) modelling tools.

### **Who Should Attend:**

The program is designed for senior project managers, department managers, supervisors and executives who plan, schedule, control, organize, manage and direct projects and people.

It is beneficial especially to practicing professionals who operate in today's demanding business environment, who are responsible for settling policies and standards in that environment and who wish to keep professional skill on the leading "edge".

### **Daily Course Contents:**

#### **First Day:**

Registration and Reception

#### **Second Day:**

*Program Introduction and Objectives*

Principles of Strategic Planning

The Management Games

Company Mission/Goals and Objectives

Product Market Focus

#### **Third Day:**



Competitions Dimensions

Strategic Planning Purposes

The Information Revolution

Information Strategic Planning (ISP)

Role of Technology in Process Re-engineering (BPR)

**Fourth Day:**

*Methodology for Modeling Processes*

Executive Information Systems (EIS)

Decisions Support System

New Technologies

Summary and Course Close

**Fifth Day:**

**Course Speaker:**



## Technical Support & Its Implication

### Introduction to Telecommunications

#### Course Benefits:

Today's telecommunications networks have the ability to transport voice, data and image traffic to any location in the world. While most organizations use many separate networks for the various types of information they exchange, many are moving toward convergence of several types of traffic into fewer networks.

This introductory course demystifies all of the components and standards of today's telecommunications options. You learn how to evaluate your organization's choices and develop a strategy that achieves the best balance between cost, security and performance for each type of traffic.

#### You will learn:

- Apply multiple communications technologies in planning convergence networks for voice, data and video
- Choose the correct wired or wireless transmission medium for network access
- Specify the most cost-effective telephony network technologies for your enterprise
- Take advantage of Internet technology to handle your data and voice communications
- Evaluate current data network alternatives for cost-effective IT support

**Course Duration:** Five days

#### Who should attend?

This course is valuable for those involved in projects requiring the transmission of voice, data and video over wide area networks, including



technical support staff, newly appointed network designers, network managers and administrators.

## **Course Outline:**

### **INTRODUCTION AND OVERVIEW**

#### **Convergence fundamentals**

- Why convergence matters
- The structure of convergence

#### **The complete network**

- Components
- Leased and switched networks
- Public and private networks

### **COMPARING TRANSMISSION MEDIA**

#### **Selecting the medium**

- Copper ansiber
- Terrestrial radio
- Geosynchronous and LEO satellites

#### **Applying analog and digital techniques**

- Bandwidth, loss, frequency response
- AMI, B8ZS, NRZ, AM, FM, PSK, QAM
- Sync and async transmission

#### **T1/E1 equipment**

- DS-1 and E1 rates and formats
- The 56-kbit/s limitation
- ESF and error monitoring
- Fractional services

#### **Differences between PDH and SDH**

- PDH bit and frame slips
- Add-drop multiplexing
- SONET/SDH rings

### **MASTERING BASIC TELEPHONY**

### **The local loop**

- Tip and ring
- Bandwidth and DC power

### **How a telephone works**

- 3.1-kHz signals
- Hybrids and two-wire loops
- Loop signalling

### **Components of LXs and PBXs**

- Switch matrices and controllers
- Space and time division switching
- Lines and trunks
- Multistage switches

### **Calculating blocking probability**

- ABSBH
- Erlang B and C
- Trunk group efficiency
- Sizing PBX trunk groups

## **MODERN TELEPHONY AND VIDEO CONFERENCING**

### **Basic and primary rate ISDN**

- NT1s, TAs, TE1s, TE2s
- Supplementary services

### **Comparing cellular techniques**

- Frequency re-use
- Hand-off and roaming
- TDMA versus CDMA
- AMPS, GSM, PCN/PCS

### **Choosing a voice coding method**

- A-Law,  $\mu$ -law, ADPCM

- Low bit-rate coding: LPC, CELP

### **Video conferencing standards**

- Video coding: H.261
- H.320/H.323 terminals

## **SIGNALING**

### **Channel-associated signalling**

- Dial pulse and DTMF
- E&M interfaces
- Robbed-bit and E1 slot-16 signalling

### **Applying common-channel signalling**

- Q.931 ISDN call control
- SS7 signalling network
- QSIG and DPNSS for PBXs

## **USING DATA COMMUNICATIONS NETWORKS**

### **Choosing packet or circuit switching**

- Delay and jitter
- Suitability for isochronous traffic
- CRC, FEC, retransmission
- VC and end-to-end addressing

### **A TCP/IP primer**

- The TCP/IP suite
- IP addressing
- Routers
- Internet and intranets

### **Using PSTN and narrow-band ISDN**

- V.90 56-kbit/s modems
- ISDN telecommuting and Internet access
- BONDING, PPP-MP

### **Specifying frame relay options**



- LAN-to-LAN interconnection
- Data rate and latency
- Risk, CIR and EIR

### **Applying VPN technology**

- Leased line replacement
- Remote access
- Performance
- Encryption and authentication

## **PLANNING VOICE/DATA/VIDEO CONVERGENCE**

### **Transmission-level convergence**

- ADSL, cable modems
- LMDS, LMCS wireless local loops
- Cellular data

### **Network-level convergence**

- Multi-rate ISDN
- VoFR with FRF.11
- VoIP with IMTC agreements
- ATM cell relay
- QoS

### **Application-level convergence**

- PBX versus Centrex
- CTI architectures
- 1st-party/3rd-party integration
- Web-enabled call center

## Information Technology in a Windows 95 Environment

### Course Objectives:

**On completion of this program the trainee/s will be competent in:**

- Fundamentals of computer literacy working within the Windows 95 environment.
- Utilizing the PC as a tool for industrial and commercial applications.
- Windows 95 Applications in English and Arabic Version (if required)

**Course Duration:** Four Days

### Course Contents:

- Introduction to Information Technology & Computer Concepts
- Information Technology in an Organization, Identifying Hardware Parts ,
- CPU & Other Internal Parts Peripherals, Keyboard , Mouse, Printers
- Software Packages, Word Processing, Spreadsheet & Graphics
- Data Processing, Files and Documents Management
- Windows 95 Discovery : Using Interface, Working with Windows 95, Managing Files and Folders, Customizing Windows 95, Other Features
- Microsoft Windows Concepts & Using Windows Ver 3.1
- What is Windows : Using File Manager, Creating Your Own Program Groups, Accessories, Customizing Windows Set Up, Controlling Printing
- Microsoft Word for Windows : Introduction to Word Using Documents, Working with Text, Formatting Paragraphs, Auto Text
- Formatting the Page, Tables, Using Mail Merge, Applets, Useful Facilities
- Microsoft Excel : Using Spreadsheet, Building and Editing a Worksheet Formatting and Editing a Worksheet, Printing and Page Layout, Formulas and Functions, Charting, Data Lists Managing Workbooks
- Microsoft Access : Database Concepts, Using Access Help and Cue Cards
- Designing / Creating a database, Creating Queries, Performing Calculations in Queries, Reports, Data Entry Forms, Creating / Querying Tables, Controls and Control Properties
- Microsoft Power Point : Introduction to Graphics, Using Graphics, Working with Text, Enhancing Text, Overview of Drawing Facilities, Overview of Charts Using the Slide Show Facility

**Who should attend:**



Those who need to utilize a Personal Computer as a stand alone or part of a network, including managers, and those responsible for production on a PC / Computer Operations. The course is designed for trainees who have no understanding of computer systems and can be taught in Arabic Windows if required. The program is supported by innovative teaching techniques.