Understanding Modern Information and Communication Technology

🌐 Learn via: **Classroom / Virtual Classroom**

🕐 Duration: **3 Days**

Overview

This 3-day course aims to demystify the world of ICT and will cover disciplines in areas including Networking, Hardware, Operating Systems Integration technologies, Cloud Services, Virtualization, the need for system integration, security, how applications communicate with systems and much more.Delivered by way of a set of presentations, discussions and digitised end of module assessments. Delegates at all levels of IT confidence will have an opportunity to reflect on the issues they encounter and have the opportunity to engage in question & answer sessions.

Throughout the course, examples of some of the contemporary tools and software suites will be given to aid visualisation of the topics being discussed.

Target Audience:

The target audience for this course is anybody who communicates on a regular basis with corporate IT departments and has the need to understand the technologies employed, the terminologies used, the various IT roles and the driving forces behind the IT decisions in the modern workplace.

The course is suitable for anyone with a desire to understand modern ICT infrastructures and assumes no prior knowledge of ICT systems.

Prerequisites

There are no recommended pre-requisites for this course

What You Will Learn

At the end of this course you will be able to:

- Provide an understanding of the technologies used in typical corporate IT departments.
- Exhibit increased confidence when communication about IT systems.
- Gain an appreciation of the strategic reasons why certain technologies are selected over others.
- Assist in identifying products and systems applicable to their individual business needs and roles.

Outline

Module 1 - The Big Picture

This section of the course will provide high-level overviews of modern infrastructures, painting the picture for the modules to come. The various terms and acronyms details throughout the rest of the course will be introduced in this preliminary section.

Module 2 – The Network Environment

Networks sit at the heart of most modern businesses, so this module will introduce key concepts of corporate communications such as local, metropolitan and wide area networks and the evolution of network topologies.

Module 3 – Local Area Netowrks

This module covers the different types of IT hardware which are commonly seen in modern businesses as well as network communication across infrastructures, wired and wireless communication as well as the different types of VLAN's used to separate logical departments in organisations.

Module 4 – Wide Area Networks

We look at how communication occurs over the internet, how internet service providers handle data and how we're able to pass data from one geographical location to another through various protocols such as MPLS.

Module 5– TCP/IP

In this section we look at the most commonly used protocols and ports in networks, IP address allocation and the breakdown of addressing through subnetting. We also look at the standards and some of the authorising bodies in TCP/IP communication.

Module 6 – Mobile Networks

We will look at the evolution of mobile networks from Analogue GSM data transmission all the way through to the long anticipated 5G mobile networks.

Module 7– Client Devices

We will learn about all the difference devices available in infrastructures that enable us to complete daily tasks with information on how these devices interact with servers.

Module 8– Servers

This section focuses on the different types of servers used in infrastructures across the world, things to consider when selecting a server that is fit for purpose and the different ways to implement servers to build robust infrastructures.

Module 9 – Operating systems

We will look at the most commonly used operating systems available in all modern infrastructures.

Module 10 – How applications are delivered

The modern office is a world away from the offices of 5 or 10 years ago. Hot-desking and remote/mobile working is becoming more common in the modern business. The IT infrastructure supporting this new approach to working needs to be flexible and secure. This module sees an exploration of fat and thin clients, virtualization options, Cloud computing, and mobile devices such as tablets and smartphones.

Module 11 - Need for Integration

With such a massive choice of tools and software platforms, it can be a huge logistical problem making them all talk to each other and share data. Integration of these systems is paramount to achieving a successful IT enterprise. SOA (Service Oriented Architecture) is examined in this module alongside messaging systems, middleware technologies, and standards such as Simple Object Access Protocol (SOAP) are discussed. The increasing use of XML (eXtensible Markup Language) for data integration and the growing use of API's.

Module 12 - Need for Cooperation

Cooperation is key to the success of all businesses, so this module looks at the technologies that allow for data to be cooperatively shared across all aspects of the workplace, enabling decisions to be made quickly and with the minimum of fuss.

The use of communications media is discussed, taking e-mail, CRM tools and the not-so-humble telephone systems into the modern office. Microsoft SharePoint is given as an example to illustrate collaboration via portals, document management, record management and workflows. This module also looks at the interleaving of email, voice, text and video with products such as Microsoft Unified Communications. The use of Intranets and extranets will be examined along with the increasing use of Blogs and Wiki sites for collaborative working.

Module 13 – Software licensing

We will look at all the different licensing models used by providers and software vendors. Terms like proprietary, freeware and opensource will be broken down and we will look at how different software vendors benefit from the different licensing models.

Module 14 – The Web Protocols

The biggest advance in IT over the last 20 years has been the creation and evolution of the WWW. Many businesses have changed their entire business model due to the WWW, and some have grown entirely online. This module will see how modern web designers utilise technologies such as Active Server Pages (ASP.Net), JavaScript, Adobe Flash, Silverlight, and more to build the rich websites required by most businesses to share data and information.

Module 15- Management Reporting Tools and Databases

How do we know we are getting the best return for our investment? Staff performance and progression, sales trends, HR management, Customer Relationships and Web traffic analysis are some of the many deliverables a modern company needs to track to ensure a good return on Investment. This module explains some of the tools which can be deployed to manage and report on these topics. Business intelligence systems such as Business Objects, Crystal Reports, SAP Analytics and SAS Analytics will be discussed along with the Oracle e-business suite. Essentially, these tools are complex databases, so a look at Relational databases will help to understand how powerful these tools can be - Oracle, IBM, and Microsoft offerings will be discussed, along with the industry standard database language SQL. Data storage technologies are becoming cheaper all the time, so companies no longer have a pressing need to delete old data, as such more and more information is being retained on our IT systems. Good data management is therefore a paramount concern for many businesses, so an understanding of the Data Life Cycle will be given in this module. Management of Data is tightly regulated by statute, so a brief introduction to the Data Protection Act will also be seen during this module.

Module 16 – Cloud

In this section we will look at the growing cloud space, the various cloud deployment models available as well as a few case studies of organisations who have successfully been able to leverage benefits of the cloud. We will look at various cloud providers for infrastructure as a service, platform as a service and software as a service solution as well as how to decide which solution would be fit for purpose.

Module 17 – DevOps

In this section we will look at what DevOps is and the ways modern companies are being lean and agile in their development process through culture change, automation and the various tools used by companies who support the DevOps movement.

Module 18 - Security

Security is possibly the most important piece of the entire jigsaw puzzle that is IT, yet in many cases is the most badly implemented. Most people don't give security a second thought until it's too late. This module explains the many areas security needs to be implemented to ensure data remains available, but only to those who need access to it. An outline of security technologies including firewalls, VPNs (virtual private networks), encryption, digital signatures, intrusion detection and much more is covered in this module. The use of user profiles to allow controlled resource access will also be discussed. This module will also identify how social engineering attacks are becoming more common, and how they can be used to circumnavigate expensive IT infrastructures just by asking the right questions. By determining what is classed as valuable information will help to put a good security policy into place and help police its implementation. This module will also cover the most common threat to the corporate IT environment - Malware. What is malware, how do we contract it, what can be done to prevent it getting in, and how to fix systems which have been infected.

Certification/Exams

None.

QA reserves the right to improve the specification and format of its courses for the benefit of its customers without notice to the customer.