Rationale:

This module covers the following topics: systems analysis and design, database systems, data analysis and management, systems and organisations.

Aims:

- To develop an awareness of the nature and use of information and information systems in an organisational context
- To introduce the various techniques used within systems analysis and design
- To foster an appreciation of the different types of methodologies used in the system development process
- To provide an introduction to database management systems

Objectives:

- Show an understanding of the flow of information within organisations
- Understand the differing types of information
- Propose practical solutions to given analytical problems
- Demonstrate the effective use of a chosen methodology through requirements analysis and fact finding techniques
- Display an awareness of systems development tools and techniques
- Become conversant with system design issues
- Develop awareness of the basic ideas behind using a computer to store and manipulate data
- Display knowledge of data analysis and modelling techniques
- Discuss various database management architectures
- Demonstrate an awareness of Human Computer Interaction and the use of multimedia and hypermedia
- Suggest suitable testing strategies and implementation techniques

Prior Knowledge Expected:

None
Content:

DATA MANAGEMENT

The nature of information; its acquisition, presentation, storage and management

Characteristics of data; data capture and collection

Data processing and data modelling

Simple statistical measures; mean, mode, median, standard deviation

Tabular representation of data; histograms, interpolation Requirements analysis and prototyping

Fact finding methods

Security, integrity and control

File management; organisation and access methods

Database design issues; entity modelling, normalisation, logical/physical mapping

Database architectures and types of database management systems

Functions of database management systems and database administration

Introduction to multimedia and hypermedia

SYSTEMS ANALYSIS AND DESIGN

The systems development life-cycle and its implications for software design, coding, testing, implementation and support

Prototyping and systems development tools

Structured systems analysis and design techniques

Hard and soft system methodologies
Certificate in IT Syllabus
Information Systems

Rapid application development and prototyping techniques

Object-oriented modelling

Human computer interface (HCI) design aspects

ORGANISATIONS

The flow of information in an organisation

Basic idea of management functions and structure of business and other organisations

Personnel and social considerations in the consideration of new systems

Management of computer systems, staffing, maintenance, project management and scheduling

Quality assurance aspects and methods