

Learning Objectives

Module 1 – Computer Hardware and Software in Healthcare

At the end of this Module you should be able to:

- **Distinguish** between hardware and software, between input and output devices, and between operating systems and application software.
- **Explain** the roles of the CPU, RAM, hard disk drive and removable storage media in a computer system.
- **Recognize** that software is licensed rather than sold, should not be copied illegally, and may contain errors.

Module 2 – Networks and Health Informatics

- **List** the benefits of computer networking, distinguish between LANs and WANS, and between private access and public access networks.
- **Recognize** why all computers on the same network must use the same protocol, and distinguish between the Internet and private intranets
- **List** three type of channels used for data communications, and explain telemedicine and list its benefits
- **Explain** health informatics and list the factors critical to its success.

Module 3 – Data Information and Knowledge

- **List and describe** the methods by which raw data can be processed into meaningful information
- **List** the time, content and form aspects of information
- **Distinguish** between information and knowledge, and describe the three knowledge types
- **Explain** the components and processes of inference
- **Define** understanding and wisdom in a healthcare environment.
- **Explain** health informatics and list the factors critical to its success.

Module 4 - Security, Privacy and Confidentiality

- **Recognize** that privacy drives the need for security systems, and that security systems protect privacy.
- **List** and describe the four elements of information security: confidentiality, integrity, availability and compliance.
- **List** and describe the three types of measures that protect security: technical, physical and organizational (or administrative) safeguards.

Module 5 - Electronic Record Keeping in Health Care

- **Compare** the advantages and disadvantages of paper-based record systems.
- **List** the new features made possible by IT-based record systems.
- **List** the differences between EMRs and EHRs.
- **Recognize** that EHRs require common standards for coding and classification, and introduce information overload and privacy concerns.
- **Recognize** that EHRs enable integrated, coordinated care for patients, and offer efficiency, research and planning benefits for managers.

Module 6 - Administrative Information Systems

- **Distinguish** between the two types of Healthcare Information Systems: administrative and clinical.
- **Recognize** that an administrative information system is an integrated network of systems that together streamlines non-clinical operations.
- **Identify** the two main elements of a PAS: patient record-keeping and patient transaction support.
- **List** the main features and benefits of administrative systems (PAS, finances, scheduling, HRM and materials management) and of a PMS.

Module 7 – Clinical Information Systems

- **Define** a Clinical Information System and recognize its role within a hospital.
- **List** the two categories of components within a CIS.
- **List** the principal benefits of the three main Specialty Support Systems.
- **Describe** Point-of-Care and patient management systems
- **List** the benefits of incorporating a CIS into a healthcare environment.

Module 8 - Decision Support Systems

- **Recognize** that decision-making leads us to look creatively at situations.
- **List and describe** the three decision types.
- **Define** a DSS and list its three main components.
- **Identify** the features and benefits of DSS's for clinicians and managers.
- **Distinguish** a DSS from an expert system.