ICDL Health Information Systems Usage

Syllabus Version 1.5

Purpose

This document details the syllabus for *ICDL Health Information Systems Usage*. The syllabus describes, through learning outcomes, the knowledge and skills that a candidate for *ICDL Health Information Systems Usage* should possess. The syllabus also provides the basis for the theory and practice-based test in this module.

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This module is aimed at users of patient data systems, such as doctors, nurses and healthcare support staff. It defines the skills necessary for staff to operate a health

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information system[1] (HIS) efficiently and securely. It recognises the importance of educating and empowering the end user at all levels and for all professions. It builds on and complements professional education and practice principles, and generic ICT skills, to cover the increasingly important area where computer systems used in the health sector may challenge both established professional practice and good data management.

Module Goals

Successful candidates will be able to:

- Understand the key features of a Health Information System (HIS).
- Use a HIS safely and efficiently.
- Understand the ethics, rules and regulations relating to HIS.
- Understand confidentiality, security and access control when using a HIS.
- Understand and interpret electronically recorded data.

CATEGORY	SKILL SET	REF.	TASK ITEM
1 Concepts	*1.1 Healthcare Information Systems (HIS)*	1.1.1	Define a Healthcare Information System (HIS) as a system for holding and updating patient-related information and records, clinically as well as administratively oriented.
		1.1.2	Understand that a HIS may be made up of patient, personal or population records.
		1.1.3	Understand that electronic health records provide for history, diagnosis, documentation and management plans with respect to individual patients, and testing and procedures that result from these plans.
		1.1.4	Understand the relationship between population records and personal health records.

[1] In the ECDL Health Module a Healthcare Information System (HIS) is characterised as any healthcare system based on patient-related information and records. It can be clinically as well as administratively oriented.

CATEGORY	SKILL SET	REF.	TASK ITEM
		1.1.5	Appreciate some of the benefits of Healthcare delivery through a HIS such as more reliable, timely information leading to better patient care.
	1.2 HIS Types	1.2.1	Understand that HIS are made up of different parts such as: Electronic Health Record, ordering, imaging, prescribing and laboratory systems, PACS, Ultrasound, results-based, decision-support, multimedia and billing where appropriate.
		1.2.2	Describe some of the key qualities of a HIS such as: accessible, reliable, rapid access, shared view, up-to-date, accurate, provides for a continuum of care, efficient, and incorporates some important safety features.
		1.2.3	Identify or know about some of the functions or tools of HIS such as: booking appointments and scheduling, transmission of outputs / results, updating of patient records, giving prescriptions, home healthcare via the Internet.
		1.2.4	Appreciate some of the potential constraints of using a HIS such as: a change in the Healthcare Professional / Patient relationship, loss of subtlety in language and data entry, loss of context of the data capture, ease of use of the patient record.
		1.2.5	Understand that a HIS supports but does not replace clinical judgment.
		1.2.6	Understand different kinds of HIS such as: office /department based, local facility based, regionally based, nationally, or internationally based.
		1.2.7	Understand the implication reliability, security, authorization to view data from your own authorized source rather than an external source.

CATEGORY	SKILL SET	REF.	TASK ITEM
		1.2.8	Understand different types of HIS such as: legacy / computer-based / distributed records.
2 Due Care	*2.1 Confidentiality*	2.1.1	Describe the healthcare worker's responsibilities in relation to patient confidentiality within a HIS: access only to patient information when necessary; access only to items that are need-to-know; access only to information that is right-to-know, awareness of concept of personal accountability.
		2.1.2	Understand the patient's right of (implied or explicit), issues such as sensitivity in dealing with patient data in relation to family members and others. Appreciate patient right not-to-know issues.
		2.1.3	Understand that local legislation gives patients the right to review and amend their own records.[2]
		2.1.4	Recognise the distinction that system access does not imply authorization to view or use.
		2.1.5	Understand national requirements in terms of public reporting and management of patient specific data / rules and constraints, public health, notifiable diseases.
		2.1.6	Understand that there are certain confidentiality risks associated with HIS such as patient specific printed materials, e-mail risks.
		2.1.7	Appreciate some of the national requirements in terms of patient control of data: opt-in, opt out.
	2.2 Access Control	2.2.1	Understand that access control in a HIS is intended to protect patient's data and access to HIS is often based on: healthcare worker roles, duties and responsibilities.

[2] Data Protection Act, Freedom of Information Act.

CATEGORY	SKILL SET	REF.	TASK ITEM
		2.2.2	Understand how access may be based on what the user may know (e.g.: a PIN); what the user has (e.g.: a Card or token) or what they are (e.g.: a biometric scan).
		2.2.3	List some different kinds of access control techniques such as: biometric, text, tokens, Smart Cards, barcodes etc.
		2.2.4	Recognise the need to change passwords regularly.
		2.2.5	Understand why it is important to choose an appropriate password and other mechanisms of authentication and the importance of changing it regularly.
		2.2.6	Understand that passwords / authentication details should not be shared and that tokens and passwords need to be safeguarded.
		2.2.7	Recognise the need to observe the password policies of an organisation.
	2.3 Security	2.3.1	Describe some of the key principles of security within HIS such as awareness of systems vulnerability, requirement for formal agreement to organisational security policy.
		2.3.2	Understand that an organisational security policy has personal, professional and organisational impacts.
		2.3.3	Describe some of the principal threats to a HIS such as accidental viewing, unauthorised inquiry, malicious damage, uncontrolled access, risk of transfer of data to external media.
		2.3.4	List some of the defences against security threats to a HIS.

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		2.3.5	Understand the obligation to report security breaches and threats such as user impersonation, malicious attack, viruses or worms etc.
		2.3.6	Understand the concept of data storage and backup and why it is important.
3 User Skills	*3.1 Navigation*	3.1.1	Search, locate and verify a patient record.
		3.1.2	Recognise the same individual has two records created in the system, and understand authority for merging.
		3.1.3	Know how to identify the authorship of an entry in a record.
		3.1.4	Select and view a set of patient records based on some common criteria.
		3.1.5	Record information accurately about a patient.
		3.1.6	Make the follow-up appointments/ treatment schedules for the patient.
		3.1.7	Recognize different modes (automated) of data entry.
	3.2 Decision Support	3.2.1	Understand the different types of decision support that may be available such as: alerts, reminders, validation checks etc.
		3.2.2	Understand personal responsibility, authority to override system validation messages.
	3.3 Outputs Reports	3.3.1	Create reports such as a patient list, a care unit census, patient bookings / appointments, theatre lists. etc.
		3.3.2	Create a routine output based on a specific query such as patient results.
		3.3.3	Select a type of output from a pre-existing report type/template.

CATEGORY	SKILL SET	REF.	TASK ITEM
		3.3.4	Select and view a specific report: x-ray, ECG, CT-Scan, blood result etc.
		3.3.5	Print a report securely.
		3.3.6	Transmit HIS data and reports securely.
4 Policy & Procedure	*4.1 Principles*	4.1.1	Understand that the patient record is a legal document and no information can be erased.
		4.1.2	Understand that information can be added or amended but not changed.
		4.1.3	Understand who has the authority to create new records, e.g. Births / emergency / temporary records.
		4.1.4	Understand the audit trail within HIS and the importance thereof.