COURSE OUTLINE: HCA112 - HEALTH INFORMATICS

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Course Code: Title	HCA112: HEALTH INFORMATICS
Program Number: Name	2186: HEALTH CARE ADMIN
Department:	BUSINESS/ACCOUNTING PROGRAMS
Academic Year:	2024-2025
Course Description:	This course provides an introduction to the health informatics discipline, as the foundation for further study in this inter-professional/multidisciplinary field. This course traces the history of health data management and the role of the Electronic Health Record (EHR) and other clinical informatics applications in health care organizations. Emphasis is given to clinically transformative technologies, communication processes and information practices in health care.
Total Credits:	3
Hours/Week:	3
Total Hours:	42
Prerequisites:	There are no pre-requisites for this course.
Corequisites:	There are no co-requisites for this course.
This course is a pre-requisite for:	HCL401
Vocational Learning Outcomes (VLO's) addressed in this course: **Please refer to program web page for a complete listing of program outcomes where applicable.**	**2186 - HEALTH CARE ADMIN** VLO 1 Address the needs of a diverse patient population using best practices to ensure progressive and positive processes within a health care facility. VLO 3 Utilize progressive, professional leadership concepts while working within an interprofessional health care team. VLO 6 Utilize health care technology and informatics for the benefit of the patients and support of the institution. VLO 7 Support evidence informed decision making, using critical thinking skills and best practices in the administration of a healthcare facility.
Essential Employability Skills (EES) addressed in this course:	EES 1 Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience. EES 2 Respond to written, spoken, or visual messages in a manner that ensures effective communication. EES 5 Use a variety of thinking skills to anticipate and solve problems. EES 6 Locate, select, organize, and document information using appropriate technology and information systems. EES 7 Analyze, evaluate, and apply relevant information from a variety of sources. EES 8 Show respect for the diverse opinions, values, belief systems, and contributions of

	others.
Course Evaluation:	Passing Grade: 50%, D A minimum program GPA of 2.0 or higher where program specific standards exist is required for graduation.
Books and Required Resources:	Introduction to Health Informatics: A Canadian Perspective by Christo El Morr Publisher: Canadian Scholars Edition: First, 2018 ISBN: 97817733800001 Print format Introduction to Health Informatics: A Canadian Perspective by Christo El Morr Publisher: Canadian Scholars Edition: First, 2018 ISBN: 9781773380025 eBook format

Course Outcomes and Learning Objectives:

Course Outcome 1	Learning Objectives for Course Outcome 1
Understand the evolution and context of health informatics as a discipline within health care.	1.1 Describe the evolution of health informatics. 1.2 Explain the differences among many health informatics systems. 1.3 Explain the intersection between health informatics and health management and health policy. 1.4 Understand the technological context within which health informatics evolves. 1.5 Describe the competencies needed by a Health Informatics Professional (HIP).

Course Outcome 2	Learning Objectives for Course Outcome 2
Understand the role of databases and information systems in supporting quality patient care, accountability, and health system effectiveness.	2.1 Describe the difference between data and information. 2.2 Describe the role of databases in organizations. 2.3 Explain the components of an information system. 2.4 Assess the impact of big data analytics and cloud computing. 2.5 Describe the main components of the databases and data warehouses currently used in hospitals. 2.6 Describe the main health information systems in a typical hospital and their connection to local, provincial, and federal organizations.

Course Outcome 3	Learning Objectives for Course Outcome 3
Understand the significance and components of information analysis, design, and predictive analytics.	3.1 Demonstrate knowledge of the steps involved in an information system life cycle. 3.2 Explain the methodologies used for system design and development. 3.3 Describe the data modelling process. 3.4 Explain the agile methodology approach and its advantages. 3.5 Understand and explain the significance of predictive analytics and associated strategies.

Course Outcome 4	Learning Objectives for Course Outcome 4
Understand usability and user-centred design principles.	4.1 Explain the difference between usability goals and user experience goals. 4.2 Identify basic usability violations in software interfaces. 4.3 Identify the role of usability in the system analysis and design life cycle
Course Outcome 5	Learning Objectives for Course Outcome 5
Explain the basic types of information systems in a health care agencies.	5.1 Describe the complexity of information systems. 5.2 Explain the basic functionalities of the radiology information system, laboratory information system, and pharmacy information system. 5.3 Explain the advantages and challenges related to electronic medical records, computerized provider order entry, and clinical decision support systems. 5.4 Explain the basic components of a picture archiving and communication system.
Course Outcome 6	Learning Objectives for Course Outcome 6
Demonstrate an understanding of the basic components of telemedicine.	6.1 Differentiate between telemedicine and telehealth. 6.2 Identify the advantages and challenges of telemedicine. 6.3 Identify examples of disruptive telemedicine technologies.
Course Outcome 7	Learning Objectives for Course Outcome 7
Demonstrate knowledge of the types of consumer health informatics applications.	7.1 Explain virtual communities and their applications in health care. 7.2 Explain the advantages and challenges of mobile health. 7.3 Discuss the benefits of wearable and personal health devices. 7.4 Describe the purpose of personal health records and patient portals.
Course Outcome 8	Learning Objectives for Course Outcome 8
Describe the difference between electronic medical records, electronic health records, and personal health records.	8.1 Explain Canada`s health infostructure. 8.2 Explain electronic health record functionalities. 8.3 Explain the Healthcare Information and Management Systems Society`s Effective EMR Adoption and Maturity Model.
Course Outcome 9	Learning Objectives for Course Outcome 9
Explore the difference between privacy, confidentiality, and data security and associated management strategies.	9.1 Explain data security, system security, data integrity, audit trails, and digital certificate. 9.2 Explain symmetric key encryption, asymmetric key encryption, and enumerate a few encryption algorithms.

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Assignments	40%
Skills Development	20%

	Tests / Quizzes	40%
Date:	June 9, 2024	
Addendum:	Please refer to the course outline addendum on the Learning Management System for further information.	