| Title (Units): | **COMP 7830 Health Informatics** | **(3,3,0)** |

Course Aims: After completion of this course, students will learn the following: (i) structures, operations and workflow in healthcare organizations, (ii) data and data standards in the healthcare industry, (iii) information technology in healthcare, and (iv) health information systems.

Prerequisite: Nil

Course Intended Learning Outcomes (CILOs):
Upon successful completion of this course, students should be able to:

No.	Course Intended Learning Outcomes (CILOs)
	Knowledge
1	Describe the structures, daily operations and workflow in healthcare organizations
2	Describe the data involved in healthcare and the data standards used in the healthcare industry
3	Explain how IT can support and improve the healthcare organizations
4	Explain the objectives and operations of health information systems
	Professional Skill
5	Possess the necessary health informatics knowledge to communicate with both IT and medical professionals
	Attitude
6	Recognize the value and importance of IT in healthcare

Calendar Description: In this course, students will learn the following: (i) structures, operations and workflow in healthcare organizations, (ii) data and data standards in the healthcare industry, (iii) information technology in healthcare, and (iv) health information systems.

Teaching and Learning Activities (TLAs):

CILO No.	TLAs will include the following:
1-4, 6	Students will acquire the knowledge about health information technology and appreciate the importance of healthcare systems via lectures, video presentations, and system demonstrations.
5, 6	Student will acquire the skill to communicate with both IT and medical professionals through written assignment, executive reports, and interaction with the guest lecturers during the discussion sections.

Assessment:

No.	Assessment Methods	Weighting	CILOs to be addressed	Remarks
1	Continuous Assessment	30%	1-6	Continuous assessments are designed to evaluate how well the students have mastered the concepts of medical informatics. They may include written assignments, presentations, and/or term papers. Typically they require critical thinking and may include open-ended questions.
2	Examination	70%	1-5	Final examination questions are designed to assess students understanding on this course.

Rubrics:

	Excellent (A)	Good (B)	Satisfactory (C)	Fail (F)
Describe the structures, daily operations and workflow in healthcare organizations	• Fully understand all the structures, daily operations and workflow in healthcare organizations	• Understand most of the structures, daily operations and workflow in healthcare organizations	• Sufficiently understand the structures, daily operations and workflow in healthcare organizations	• Do not understand most of the structures, daily operations and workflow in healthcare organizations

	Excellent (A)	Good (B)	Satisfactory (C)	Fail (F)
Describe the data involved in healthcare and the data standards used in the healthcare industry	• Fully understand all the data involved in healthcare and the data standards used in the healthcare industry	• Understand most of the data involved in healthcare and the data standards used in the healthcare industry	• Sufficiently understand the data involved in healthcare and the data standards used in the healthcare industry	• Do not understand most of the data involved in healthcare and the data standards used in the healthcare industry
Explain how IT can support and improve the healthcare systems	• Fully understand how IT can support and improve the healthcare systems	• Understand how IT can support and improve the healthcare systems	• Sufficiently understand how IT can support and improve the healthcare systems	• Do not understand how IT can support and improve the healthcare systems
Explain the objectives and operations of health information systems	• Fully understand the objectives and operations of health information systems	• Understand the objectives and operations of health information systems	• Sufficiently understand the objectives and operations of health information systems	• Do not understand the objectives and operations of health information systems

Course Intended Learning Outcomes and Weighting:

Content	CILO No.
I. Healthcare Organizations	1, 5
II. Information and Information Technology in Healthcare	2, 3, 5, 6
III. Health Information Systems	4, 5, 6

References:

1. R. Hoyt, M. Sutton, A. Yoshihashi, Medical Informatics: Practical Guide for the Healthcare Professional, Lulu.com, 2007.
2. T. Thomas-Brogan, Health Information Technology Basics: A Concise Guide to Principles and Practice, Jones & Bartlett Publishers, 2008.
3. E. Coiera, Guide to Health Informatics, 2nd ed., Hodder Arnold, London, 2003.
4. R. Gartee, Electronic Health Records: Understanding and Using Computerized Medical Records, Pearson Education, 2007.
5. J. Tan (ed.), E-Health Care Information Systems: An Introduction for Students and Professionals, Jossey-Bass Pub., 2005.
6. P. Taylor, From Patient Data to Medical Knowledge: The Principles and Practice of Health Informatics, Blackwell Oxford, 2006.

Course Content in Outline:

Topic

I. Healthcare Organizations
    A. Suppliers, consumers and other partnering organizations
    B. Hospital and clinical workflow
    C. The role of IT in healthcare organization
II. Information and Information Technology in Healthcare
    A. Medical terminology
    B. Disease coding and classification system
    C. Medical devices and systems
    D. Public health informatics, nursing informatics, and consumer informatics
III. Health Information Systems
    A. System overview
    B. Electronic patient record and international health data standards
    C. Clinical record management
    D. Billing systems: impatient, outpatient, and health insurance
    E. Security and privacy issues