**Title (Units):** **COMP3035 Health Information Technology (3,3,0)**

**Course Aims:** This course is designed to better equip computer science students for building their career in healthcare sector. After completion of this course, students will learn the structures, operations and workflow in healthcare organizations. Students are able to describe the data involved and data standards in the healthcare industry. Moreover, students can explain how IT can support and improve the healthcare systems.

**Prerequisite:** Year III or above standing in Computer Science, and Computing and Information Systems

**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 systems |
| | **Professional Skill** |
| 4 | Communicate effectively with the necessary health informatics knowledge to both IT and medical professionals |
| | **Attitude** |
| 5 | Recognize the value and importance of IT in healthcare |

**Calendar Description:** This course is designed to better equip computer science students for building their career in healthcare sector. After completion of this course, students will learn the structures, operations and workflow in healthcare organizations. Students are able to describe the data involved and data standards in the healthcare industry. Moreover, students can explain how IT can support and improve the healthcare systems.

**Teaching and Learning Activities (TLAs):**

| CILOs | Type of TLA |
|---|---|
| 1-3,5 | Students will acquire the knowledge about health information technology and appreciate the importance of healthcare systems via lectures, video presentations, and system demonstrations. |
| 4,5 | 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 | Description of Assessment Tasks |
|---|---|---|---|---|
| 1 | Continuous Assessment | 40% | 1-5 | Continuous assessments are designed to evaluate how well the students have mastered the concept of health information technology. They may include written assignments, presentations, and/or term papers. |
| 2 | Examination | 60% | 1-4 | Final examination questions are designed to assess students understanding on this course. |

**Assessment Rubrics:**

| | Excellent (A) | Good (B) | Satisfactory (C) | Marginal Pass (D) | 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 | Understand a minimum set of structures, daily operations and workflow in healthcare organizations | Do not understand most of the structures, daily operations and workflow in healthcare organizations |
| 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 | Understand a minimum set of 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 | Barely understand how IT can support and improve the healthcare systems | Do not understand how IT can support and improve the healthcare systems |

**Course Content and CILOs Mapping:**

| Content | | CILO No. |
|---|---|---|
| I | Healthcare Organizations | 1,4 |
| II | Information and Information Technology in Healthcare | 2,3,4,5 |
| III | Health Information Systems | 3,4,5 |
| IV | Major Initiative and Case Studies | 1,3,5 |

**References:**


- T. Thomas-Brogan, Health Information Technology Basics: A Concise Guide to Principles and Practice, Jones & Bartlett Publishers, 2008.
- Ramona Nelson, and Nancy Staggers, Health Informatics: An Interprofessional Approach, Elsevier, 2013. ISBN-13: 978-0323100953, ISBN-10: 0323100953.
- Nadinia A. Davis, and Melissa LaCour, Health Information Technology (3rd Edition), Elsevier Saunders 2013. ISBN-13: 978-1437727364, ISBN-10: 1437727360.
- Robert E. Hoyt, and Ann Yoshihashi, Health Informatics: Practical Guide for Healthcare and Information Technology Professionals (6th Edition), Informatics Education, 2014. ISBN: 978-1-304-79110-8


**Course Content:**

**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 & open standards
   B. Disease coding and classification system
   C. Medical devices and systems
   D. Medical data & information management
   E. Public health informatics and consumer health informatics

III. Health Information Systems
   A. System overview
   B. Electronic health records
   C. Clinical and departmental management
   D. Clinic Management Systems
   E. Security and privacy issues

IV. Major Initiative and Case Studies