

COMP 3830 Health Information Technology (3,3,0)

Prerequisite: Year III standing

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.

COMP 3840 Medical Image Processing and Applications (3,2,1)

Prerequisite: Year III standing

This course focuses on two areas. First, students will learn some fundamental image processing techniques and the characteristics of different types of medical images. Students are then able to apply different classical image processing techniques to different types of medical images. In the second part, students will learn the structure and components of a medical imaging management system. Students will be able to apply the picture archiving and communication systems to the medical images.

COMP 3860 Clinical Decision Support and Information Systems (3,2,1)

Prerequisite: Year III standing

In this course, students will learn the methodology and techniques of medical data information management, and the models and algorithms used in computer-based clinical decision making. They will also learn the architectural design, structure, functions and components of clinical decision support systems and medical information systems.

COMP 7010 Advanced Topics in Computer Science and Information Systems (3,3,0)

Prerequisite: BSc in Computer Science or equivalent

This course studies in-depth the theories and issues in some specialized areas of computer science and information systems that are of current interest.

COMP 7030 Advanced Theory and Methodology for Information Systems Development (3,2,1)

Prerequisite: Research postgraduate student standing

To extend students' knowledge of information systems and development methodology through the study of advanced theories and methodologies, and to examine the critical issues of current IS research, so as to provide a student an integrative perspective of information systems and development.

At the end of the study of this course, students should be able to develop new solutions and models for an information system. They should also have an appreciation of methodological pluralism (that there is not one but many methods and that the 'correct' method is contingent on the problem being studied).

COMP 7040 Advanced Pattern Recognition (3,2,1)

Prerequisite: BSc in Computer Science or equivalent

This course gives students some advanced topics in the areas of pattern recognition, computer vision and image processing.

COMP 7050 Advanced Topics in Distributed Computing (3,2,1)

Prerequisite: Postgraduate standing

This course offers a study of the design and implementation issues of distributed computing systems. It revisits the designs and approaches used by traditional centralized systems and proposes relevant solutions based on the distributed computing environment. The topics for discussion include distributed computing in communications, process management, synchronization, consistency and replication, fault tolerance, file systems and case studies.

COMP 7060 Advanced Topics in Intelligent Systems (3,3,0)

Prerequisite: Research postgraduate student standing

This course deals with the advanced topics in intelligent systems.

Through a systematic training, students will be able to conduct independent intelligent systems research and develop theoretical or practical solutions in some selected domains, such as learning, planning, self-organization, soft-computing, adaptive computation, evolutionary computation, and intelligent agents.

COMP 7070 Advanced Topics in Machine Learning (3,2,1)

Prerequisite: Postgraduate standing

This is an advanced course that will not only focus on the recent literature on the applications of machine learning to problems from a range of different areas, including image/signal processing, robotics, information retrieval and data mining, but also let students learn the state-of-the-art learning theories and techniques based on statistics, neural networks and information theory.

COMP 7080 Postgraduate Seminar (1,0,0)

Students are exposed to the current IT research, development and practice via seminars, IT forum and presentations given by academic scholars, IT professionals and research students. After completing this course, students will: (1) learn the frontier knowledge of IT research and development; (2) broaden their mind; (3) understand the current IT practice; and (4) share their experience with academic scholars and IT professionals.

COMP 7090 Ubiquitous Computing (3,2,2)

Prerequisite: Postgraduate standing

This course discusses the concepts of ubiquitous/pervasive computing. This includes location-based services provided by the ubiquitous environment, positioning techniques for localization, and networks and systems issues for the design and implementation of ubiquitous/pervasive computing systems and applications. Students need to understand the key components, devices and technologies involved and recognize research issues in ubiquitous computing. This course also provides an opportunity for students to gain hands-on experiences in building applications that realize the usefulness of ubiquitous computing.

COMP 7100 Computer Graphics and Animation (3,2,2)

Prerequisite: Research postgraduate student standing

Students will learn (1) the mathematical foundation and algorithms for creating computer graphics including transformation, rendering, and (2) the algorithms for animation. Students will also gain practical experience on these topics by using graphics application programming interface (API) and develop a graphics application prototype.

COMP 7510 Foundations of Information Technology (3,3,0)

This course introduces the basic structures and operations of the computer systems. Various components of operating systems are studied in detail. Basic concepts of data networks and LANs with respect to the OSI and TCP/IP models are examined. Students who complete this course will be suitably prepared for the other courses offered in the MSc in IT Management curriculum.

COMP 7520 Foundations of Management in the IT Context (3,3,0)

The course overviews the concepts in different business management disciplines so as to provide a foundation for students in managing IT projects and organizations.

COMP 7530 IT Forum (1,1,0)

Students are exposed to the current IT practices through seminars given by IT professionals and academic staff, interacting in small groups with IT practitioners, and/or company visits. After completing this course, students will understand the current IT practice.

COMP 7540 IT Management: Principles and Practice (3,2,1)

This course deals with the management of information systems and technology as it is being practised in organizations today to produce value for businesses and consumers.