

**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 7310 Technologies and Programming for Information Systems (3,2,1)**

Prerequisite: Postgraduate standing  
This course aims at introducing the web programming and database techniques for information system development. Through this course, students will learn: (1) how to install, manage and maintain the information systems, and (2) the web programming and the database techniques, as well as hands-on experience, for developing information systems.

**COMP 7320 Professional Methodologies for Information Systems (3,2,1)**

Prerequisite: Postgraduate standing  
This course provides students with an integrative perspective of information systems and development by introducing different kinds of information systems and describing the underlying methodologies for such development. Topics include, but not limited to: model of information system, integrated view of different methodologies, methodology framework, hard systems methodology, soft systems methodology, and object-oriented methodologies. Through this course, students will be able to develop new models and solutions for an information system

**COMP 7330 Information Systems Security and Auditing (3,3,0)**

Prerequisite: Postgraduate standing  
This course aims to introduce students to the fundamental concepts and techniques in computer and network security, and giving students an overview of information security and auditing, and to expose students to the latest trend of computer attack and defense. Other advanced topics on information security such as mobile computing security, security and privacy of cloud computing, as well as secure information system development will also be discussed.

**COMP 7340 Enterprise Application Architecture and Integration (3,2,1)**

Prerequisite: COMP 7320 Professional Methodologies for Information Systems and Postgraduate standing  
This course aims to cover key concepts and design principles related to enterprise application architecture and enterprise application integration. It includes topics like layering structure, business logic organization, patterns for object/relational access layers, model-view-control patterns for Web, message-based enterprise application integration, and recent advances in enterprise application architecture.

**COMP 7350 Enterprise Information Systems Development (3,3,0)**

Prerequisite: Postgraduate standing  
This course provides an in-depth knowledge of development of enterprise information systems (EISs). Topics include alternative development strategies, agile development, software maintenance and functionalities of EISs.

**COMP 7360 Enterprise Networking and Cloud Computing (3,3,0)**

Prerequisite: Postgraduate standing  
This course provides an in-depth knowledge of enterprise networking and cloud computing. Topics include Ethernet LANs, wireless LANs, MANs, WANs, TCP/IP internetworking, network security, network management, cloud computing architecture, cloud computing services, design and implementation of cloud computing.