COMP 7110 Analytic Methods for Computer Science Research (3,3,0)

Prerequisite: Research postgraduate student standing

This course studies the various analytic methods and provides the mathematical knowledge and skills necessary for computer science students to approach the study of advanced topics in the discipline of computer science at the graduate level.

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

Prerequisite: Postgraduate student 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, 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 Audting (3,3,0)

Prerequisite: Postgraduate student 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)

Pre/Co-requisite: COMP 7320 Professional Methodologies for Information Systems

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 student 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 student 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.

COMP 7370 Information Processing in Financial Services (3,3,0)

Prerequisite: Postgraduate student standing

This course provides an in-depth knowledge of technology applications in financial industry. After completing the course, students will understand the financial operations and the impacts of information technology to the financial sector. Students will also practise the use of selected financial software and learn how to develop an application to support financial processes.

COMP 7390 Algorithms for Financial Information Systems (3,2,1)

Prerequisite: Postgraduate student standing and basic knowledge in probability and statistics

This course is to introduce algorithms in financial markets. Interest rates, term structure, bonds, and bond markets will be studied. Factors affecting bond price volatility will be discussed. In addition, financial market mechanics such as stocks, options, and futures will be covered. Basic algorithms of hedging and trading strategies using options and futures will be examined. Hands-on computer techniques for these calculations will be given.

COMP 7400 Financial Analysis and Decision Making (3,2,1)

Prerequisite: Postgraduate student standing

This course aims to introduce basic concepts in operational finance, such as financial statements concepts, financial ratio analysis, and etc., and to describe the techniques and tools that support financial decision making. Students will learn how to apply the decision analysis and making techniques and tools to various phases of financial processes.

COMP 7410 Medical Image Processing, Analysis and Applications (3,2,1)

Prerequisite: Postgraduate student standing

In this course, students will learn fundamental image processing techniques, characteristics of different types of medical images, and how to apply different classical image processing techniques to different types of medical images. Students will also learn the basic concept, structure as well as the components in Picture Archiving and Communication Systems (PACS).

COMP 7420 Decision Analysis and Support in Healthcare Systems (3,2,1)

Prerequisite: Postgraduate student standing

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

COMP 7430 Health Information Systems: Architecture and Technologies (3,3,0)

Prerequisite: Postgraduate student standing

This course provides a comprehensive study of the key architectural principles, open standards and development technologies behind healthcare information systems. At the same time, it introduces the present state of the art as well as the future trends in the development of electronic health record systems, and discusses several core technical issues in acquiring, integrating, analyzing and utilizing healthcare data.

COMP 7440 Web-based and Ubiquitous Health Care (3,2,1)

Prerequisite: Postgraduate student standing

This course covers the healthcare systems applicable to Web, social media, and ubiquitous environment. It will explain to students how the healthcare system can monitor patients and elderly as they maintain their normal everyday activities, through body sensors and home environment sensors. It will further introduce how the data are collected to make trend analysis, determine state of well-being and warn health workers of potential problems.

COMP 7450 User Interface Design and Usability Testing (3,2,1)

Prerequisite: Postgraduate student standing

This course provides an introduction to and overview of user interface design and usability testing. It integrates theories and methodologies from computer science, cognitive psychology, design, and many other areas. Issues include: command languages, menus, forms, and direct manipulation, graphical user interfaces, computer supported cooperative work, information