

to apply what they have learned in solving practical problems. Students may propose a topic of their own choice (subject to a suitable supervisor being available) or select one from a list of topics provided by the Department.

COMP 3620 Human-Computer Interaction (3,2,1) (E)

Prerequisite: *For Computer Science Programme:* COMP 2220 Software Engineering
For Computing Studies (Information Systems) Programme: COMP 2010 Structured Systems Analysis and Design; COMP 2020 Object Oriented Systems Analysis and Design

This course provides an introduction to and overview of the field of human-computer interaction (HCI). HCI is an interdisciplinary field that 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 co-operative work, information search and visualization, World Wide Web design, input/output devices, and display design.

COMP 3670 Mobile Computing (3,2,2) (E)

Prerequisite: COMP 2330 Data Communications and Networking

This course introduces the basic concepts and principles in mobile computing. This includes the major techniques involved, and networks and systems issues for the design and implementation of mobile computing systems and applications. This course also provides an opportunity for students to understand the key components and technologies involved and to gain hands-on experiences in building mobile applications.

COMP 3710 E-Business Technology (3,3,0) (E)

Prerequisite: Year III standing in Computer Science or Computing Studies

This course introduces the use of technology in many aspects of a business, with particular emphasis on concepts and practices for modeling, specifying and integrating within-enterprise and B2B business processes. Business processes related to customer relationship management, enterprise resource planning, supply chain management, etc. will be covered. Students gain a heightened awareness of emerging technologies and trends in e-business.

COMP 3720 Business Intelligence and Decision Support (3,2,1) (E)

Prerequisite: Year III standing in Computer Science or Computing Studies

This course provides a study of business intelligence, the enabling technologies, and the applications of these technologies for business intelligence, including the analysis and design for data warehousing, various data mining and knowledge discovery and sharing techniques, and the applications of the results for decision making and improved operations.

COMP 3790 Advanced Algorithm Design, Analysis and Implementation (3,2,2) (E)

Prerequisite: COMP 1150 Object Oriented Programming, COMP 1210 Data Structures and Algorithms

This course aims to help students develop advanced algorithm design and analysis skills as well as problem solving techniques for implementing solutions for a variety of challenging problems. The course has two major components: (1) theory of computation: automata, language theory, and computational complexity; and (2) problem solving: programming for a variety of algorithms for real challenging problems.

COMP 3820 Information Systems Security and Auditing (3,3,0) (E)

Prerequisite: Year III standing in Computer Science or Computing Studies

This elective course is to give students a thorough grounding in the theory, techniques and practical issues involved in computer-

based information systems security and auditing. It draws on the students' knowledge gained in courses studied earlier, particularly information systems and accounting courses.

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

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) (E)

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) (E)

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 4005 Information Systems Theory, Methodology and Architecture (3,2,1) (E)

Prerequisite: Year IV standing in Computer Science or Computing and Information Systems

To extend students' knowledge of information systems and development methodology through the study of advanced theories and methodologies, and to provide students an integrative perspective of information systems and development. Also, more advanced system design related concepts will be introduced.

COMP 4006 Information Technology Professional Practices (3,2,1) (E)

Prerequisite: Year IV standing in Computer Science

This course examines important professional issues in contemporary practice to help students become an effective participant in a team of IT professionals.

COMP 4007 Software Design, Development and Testing (3,3,1) (E)

Prerequisite: COMP 3006 Software Engineering, or COMP 3007 Systems Analysis and Design

This course is aimed to further develop students' knowledge and skills in software engineering, and to introduce and discuss software design patterns, state-of-the-art techniques and advanced topics in developing reliable software systems.

COMP 4015 Artificial Intelligence and Machine Learning (3,2,1)

Prerequisite: COMP 2015 Data Structures and Algorithms, MATH 1205 Discrete Mathematics and MATH 2005 Probability and Statistics for Computer Science

This course aims to introduce the principles and fundamental techniques of artificial intelligence, and in particular, machine learning. Students will learn the fundamentals and state-of-the-art techniques and acquire practical insights into the current development of this field.