COMP 2017 Operating Systems (3,3,1) (E)
Prerequisite: COMP 2006 Computer Organization, COMP 2007 Object Oriented Programme
This course introduces the fundamentals of operating systems design and implementation. Topics include an overview of the components of an operating system, mutual exclusion and synchronization, deadlock and starvation, implementation of processes and threads, resources scheduling algorithms, memory management, and file systems.

COMP 2018 Computer Systems and Software Workshop I (1,0,3)
Prerequisite: COMP 1005 Essence of Computing
This laboratory provides practical hands-on experience on network and server administration, serverside web programming, and tools for creating multimedia content.

COMP 2019 Computer Systems and Software Workshop II (1,0,3)
Prerequisite: COMP 1005 Essence of Computing, COMP 2016 Database Management
Co-requisite: COMP 3015 Data Communications and Networking
This laboratory provides practical hands-on experience on server administration and configuration, software design and programming tools.

COMP 2020 Object Oriented Systems Analysis and Design (3,2,1) (E)
Prerequisite: COMP 1150 Object-Oriented Programming and COMP 1160 Database Management
In this course, students will learn some methodological approaches to the development of properly designed and documented information systems. The object-oriented approach will be covered. This course is incorporated with COMP 2031-2 Group Project to let students learn how to work as a team.

COMP 2025 Mobile Application Development Workshop (1,1,1)
Prerequisite: COMP 1005 Essence of Computing or equivalent course
This course aims to introduce students to the basic concepts of mobile application development and equip them with skills in the design and development of mobile applications using up-to-date software development tools and application programming interfaces (API).

COMP 2031 Group Project (1,1,2)
COMP 2032 Group Project (2,0,2)
Co-requisite: COMP 2010 Structured Systems Analysis and Design
The aim of the group project is to (1) develop students' ability to apply a methodological approach to the development of systems, by thorough analysis, good systems design and comprehensive documentation; (2) simulate a real-life working environment in the classroom, so that students gain experience of working as team members participating in systems development; and (3) improve the students' presentation and communication skills.

COMP 2040 Applied Information Systems Laboratory I (1,0,3)
Prerequisite: COMP 1180 Structured Programming
This laboratory provides practical hands-on experience on network and server administration, server-side web programming, and CASE tool.

COMP 2050 Applied Information Systems Laboratory II (1,0,3)
Prerequisite: COMP 1180 Structured Programming
This laboratory provides practical hands-on experience on state-of-the-art software including various system and networking tools, multimedia tools, and modelling tools.

COMP 2220 Software Engineering (3,2,1) (E)
Prerequisite: COMP 1210 Data Structures and Algorithms and MATH 1130 Discrete Structures
This course discusses principles and practical aspects of software development.

COMP 2230 Design and Analysis of Algorithms (3,3,0) (E)
Prerequisite: COMP 1210 Data Structures and Algorithms and MATH 1130 Discrete Structures
This course builds on the study of the analysis and implementation of algorithms and data structures from COMP 1210. The goal is to introduce a number of important algorithms that are interesting both from a practical and theoretical point of view. Algorithm design paradigms such as divide-and-conquer and dynamic programming will be discussed, and algorithms for e.g. sorting, searching and graph problems will be developed.

COMP 2320 Operating Systems (3,3,1) (E)
Introduces the fundamentals of operating systems design and implementation. Topics include an overview of the components of an operating system, mutual exclusion and synchronization, deadlock and starvation, implementation of processes and threads, resources scheduling algorithms, memory management, and file systems.

COMP 2330 Data Communications and Networking (3,3,1) (E)
Prerequisite: COMP 1170 Introduction to Structured Programming or COMP 1180 Structured Programming
Students will learn the principles of data communications, computer networks and network programming.

COMP 2550 Internship (0,0,0)
Prerequisite: Year II standing in BSc (Hons) in Computing Studies (Information Systems) or the consent of the Department
Through internship work, students are expected to acquire the following kinds of experience: (1) application of academic and professional information technology/information system knowledge to real-world problems; (2) interaction with clients and/or technical workers; and (3) the stringent requirements in the work environment. This experience prepares students for employment as professional practitioners upon graduation. Students are required to work for at least six weeks full time or equivalent.

COMP 2600 Software Development Workshop II (0,2,2)
Prerequisite: COMP 1180 Structured Programming, COMP 1160 Database Management and COMP 2330 Data Communications and Networking
This workshop introduces the state-of-the-art technologies in Internet and Web applications. Practical hands-on experience on various system tools, networking tools, web programming, and modelling tools will be provided.

COMP 3005 Design and Analysis of Algorithms (3,3,1) (E)
Prerequisite: COMP 2015 Data Structures and Algorithms, MATH 1205 Discrete Mathematics
This course is to introduce the techniques of designing efficient algorithms including divide-and-conquer strategy, dynamic programming, greedy and approximate algorithms, and so forth, and the applications of these techniques to design non-trivial algorithms, e.g. advanced data structures, graph algorithms, sorting algorithms and computational geometry. The time and space complexity of algorithms will be analysed from a theoretical point of view. Also, the issue of problem complexity will be addressed.