COMP 4107   Software Design, Development and   (4,3,2)
Testing
Prerequisite: COMP 3047 Software Engineering
This course aims 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 4115   Exploratory Data Analysis and   (3,2,1)
Visualization
Prerequisite: MATH 2005 Probability and Statistics for Computer Science
This course aims at providing basic concepts and techniques in exploratory data analysis and visualization. Hands-on experience of using data analytics software tools will also be covered.

COMP 4116   Information Systems Management   (3,2,1)
Prerequisite: Year III or above standing in Computer Science
The course deals with the management of information systems and technology as it is being practiced in organizations today to produce value for businesses and consumers.

COMP 4117   Information Systems: Design and   (3,1,3)
Integration
Prerequisite: COMP 3047 Software Engineering
This course provides a chance to students to apply a methodological approach to the development and integration of information systems. Students will work as a team and go through phases in system development life cycle, and implement solutions to the identified problems with exposure to systems integration in practice. They will also practice the presentation and communication skills in team management, report submission and project demonstration.

COMP 4868-9   Informatics Project   (3,0,9)
Prerequisite: Year IV Standing in Computer Science
Students will carry out a piece of highly independent work, which could be a system development project, an information analytics study or an academic research project, under the supervision of a faculty member. A project report and an oral presentation/ demonstration are required upon successful completion of the project. Other deliverables for research projects may be a research paper or research prototype.

COMP 4878-9   Innovative Computing Project   (3,0,9)
Prerequisite: Year IV Standing in Computer Science
Students will engage in a highly independent problem solving activity under the supervision of a faculty member. Students are expected to gain practical experiences of applying software systems principles and techniques acquired from the Programme to the solution of a real-life problem. The project demands careful planning and creative applications of underlying theories and enabling technologies. A final report and an oral presentation are required upon successful completion of the project.

COMP 7010   Advanced Topics in Computer   (3,3,0)
Science and Information Systems
Prerequisite: Research postgraduate student standing
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   (3,2,1)
for Information Systems Development
Prerequisite: Research postgraduate student standing
To extend students' knowledge of informaton 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   Computer Vision and Pattern   (3,2,1)
Recognition
Prerequisite: Research postgraduate student standing
This course gives students some advanced topics in the areas of computer vision and pattern recognition.

COMP 7050   Advanced Topics in Distributed   (3,2,1)
Computing
Prerequisite: Research postgraduate student 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   (3,3,0)
Systems
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   (3,2,1)
Learning
Prerequisite: Research postgraduate student 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: Research postgraduate student 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.