limiting marketing to children/youth. The course will begin with the cognitive and affective responses toward commercial communication, as well as development of the understanding of brands among young consumers. Parental and peer influence and the application of integrated marketing communication will be explored. Ethical issues involved in marketing and advertising to young consumers will be discussed. The course will conclude by examining issues related with undesirable consequences of advertising to young consumers, such as gender stereotyping and materialism.

COMM 7580 Social Media Marketing (3,3,0)
The advent of social media and mobile media devices, such as smartphones and tablet, is rapidly changing human interaction, including business models. Millions of people worldwide are living much of their lives on SNS, such as Facebook, Twitter, Blog, YouTube and LinkedIn in the United States, and Renren, Weibo in China. Global Internet users spent more than one fifth of online time on social network sites or blogs. The trend exemplifies that human interaction, including business environment, has being deeply transformed by social media.

COMM 7710 Independent Readings in Communication (3,*,*)
Readings are especially designed by the instructor for and tailored to the student to broaden intellectual perspective and to provide indepth understanding of specific research areas.

COMM 7720 Proseminar in Communication (1,1,0)
This course is an overview of communication studies and in areas intends to build on a basic foundation. It will take students further into the field to develop an appreciation of contributions of parallel domains in the social sciences and humanities and connection to them. Students will be trained to think critically about the issues across areas, seek inspiration in previously unfamiliar areas, and reflect on their own research.

COMM 7730 Academic Research Taskforce (3,3,0)
Prerequisite: COMM 7740 Research Methods in Communication
The aim of this course is for research postgraduate students to master hands-on academic research skills through practice and experiential learning under the direction of faculty members. Students will carry out primary research to become familiar with step-by-step execution of specific research method(s), along with necessary fine-tuning of the operational details in one or more quantitative and qualitative research methods.

COMM 7740 Research Methods in Communication (3,3,0)
The course covers the conceptual process and operational procedure in research including conceptualization and study design, operationalization and instrumentation, data collection and data analysis, as well as interpretation of findings and writing the report. Related topics on validity, relability, and ethical issues in conducting research on humans are integral part of the content.

COMP 1000 Supplementary Computer Programming Laboratory (0,1,3) (E)
This course introduces basic operating system commands and problem solving skills, and provides students with fundamental structured programming practices.

COMP 1005 Essence of Computing (3,2,2) (E)
This course provides students with an overview of Information & Communication Technologies, together with basic knowledge of computer-oriented problem solving methodologies, algorithm development, programming concepts and design techniques.

COMP 1006 Facets of Computing (1,1,0.5) (E)
This course provides students with an overview of core areas in computing, an appreciation of their potentials and limitations, and a glimpse of the career path of IT professionals.

COMP 1020 Introduction to Information Systems (1,1,0) (E)
This course provides students an overview of the IS programme, the different involved specialties in the computer science and information systems fields in the business domain, and a glimpse of the career path of IS professionals.

COMP 1150 Object-Oriented Programming (3,3,2) (E)
Prerequisite: COMP 1170 Introduction to Structured Programming or COMP 1180 Structured Programming
This course introduces the object-oriented programming concepts, principles, and techniques, including classes, objects, inheritance, and polymorphism. All these concepts are illustrated via a contemporary object-oriented programming language.

COMP 1160 Database Management (3,2,1) (E)
This course introduces how to represent the data in a database for a given application and how to manage and use a database management system. Topics include: conceptual modelling of a database, relational data model, relational algebra, database language SQL and relation database design. In addition, hands-on DBMS experience is included. Students who have received credits for COMP 1160 are not allowed to take I.T. 1530, or vice versa.

COMP 1170 Introduction to Structured Programming (3,2,1) (E)
This course introduces a methodical approach to programme development, starting from problem formulation and specification, through design of the solution, implementation, and documentation, to evaluation of the solution. The course matter is taught through a high-level structured programming language. This course is not available to Computing Studies, Computer Science and Physics majors with Computer Science concentration.

COMP 1180 Structured Programming (3,3,2) (E)
This course provides students with basic knowledge of computer-oriented problem solving methodologies, algorithm development, structured programming concepts and design techniques, and implementation tools that facilitate debugging and testing. In particular, structured programming skills will be illustrated with a contemporary programming language. This course is open to Computer Science majors, Computing Studies majors, and Physics majors with Computer Science concentration only.

COMP 1210 Data Structures and Algorithms (3,2,1) (E)
Prerequisite: COMP 1170 Introduction to Structured Programming or COMP 1180 Structured Programming
This course develops students' knowledge in data structures and the associated algorithms. It introduces the concepts and techniques of structuring and operating on Abstract Data Types in problem solving. Common sorting, searching and graph algorithms will be discussed, and the complexity and comparisons among these various techniques will be studied.

COMP 1320 Computer Organization (3,3,0) (E)
This course introduces the organization of digital computers, the different components and their basic principles and operations.

COMP 1600 Software Development Workshop I (0,2,2)
Prerequisite: COMP 1180 Structured Programming
This workshop introduces the basic concepts in network and server administration, web server programming and multimedia. Practical hands-on experience on server administration, web programming and multimedia tools will be emphasized.

COMP 1610 Interactive Computing for Visual Communication (3,3,0) (E)
Media convergence has transformed the computational machine into an unprecedented rich multimedia communication medium with ubiquitous connectively and interactive capability. This

new medium presents endless possibilities with applications full of dynamic contents and rich visual user interface experience. Expertise in both computer science and visual communication are needed in order to fulfil the application demands. This course aims to address these demands and prepare the students with all-around trainings and skills to master the challenges. Unlike traditional courses which are merely designed for one specific discipline of students, this course offers a unique platform for students without and prerequisites in mathematics, computer programming or visual design to acquire and establish the knowledge necessarily for the challenges. This course introduce high-level programming concepts and approaches visual design on the new medium using approachable and intuitive computational visual building block environment such as Processing developed by MIT.

COMP 2005 Business in the IT Context (3,2,1) (E)
The course provides the concepts in different business disciplines so as to provide a foundation for students to manage IT projects and organizations.

COMP 2006 Computer Organization (3,3,0) (E)
This course introduces the organization of digital computers, the different components and their basic principles and operations.

COMP 2007 Object Oriented Programming (3,3,2) (E)
Prerequisite: COMP 1005 Essence of Computing
This course introduces the object-oriented programming concepts, principles, and techniques, including classes, objects, inheritance, and polymorphism. All these concepts are illustrated via a contemporary object-oriented programming language.

COMP 2008 Applied Information Systems Laboratory I (1,0,3)
Prerequisite: COMP 2007 Object Oriented Programming
Co-requisite: COMP 3007 Systems Analysis and Design
This laboratory provides practical hands-on experience on network and server administration, server-side web programming, and CASE tools.

COMP 2009 Applied Information Systems Laboratory II (1,0,3)
Prerequisite: COMP 2008 Applied Information Systems Laboratory I
This laboratory provides practical hands-on experience on state-of-the-art software including various system and networking tools, multimedia tools, and web programming languages.

COMP 2010 Structured Systems Analysis and Design (3,3,0) (E)
Prerequisite: COMP 1160 Database Management and COMP 1180 Structured Programming
In this course, students will learn some methodological approaches to the development of properly designed and documented information systems using the structured approach. This course is incorporated with COMP 2031-2 Group Project to let students learn how to work as a team for developing software systems.

COMP 2015 Data Structures and Algorithms (3,3,1) (E)
Prerequisite: COMP 2006 Computer Organization or COMP 2007 Object Oriented Programming
This course develops students' knowledge in data structures and the associated algorithms. It introduces the concepts and techniques of structuring and operating on Abstract Data Types in problem solving. Common sorting, searching and graph algorithms will be discussed, and the complexity and comparisons among these various techniques will be studied.

COMP 2016 Database Management (3,2,1) (E)
This course introduces how to represent data in a database for a given application and how to manage and use a relational database management system (RDBMS). Topics include: entity-relationship model, relational data model, relational algebra, structured query language SQL and relation database design. In addition, hands-on RDBMS experience is included. Students who receive credits for this course are not allowed to take IT 1530 (to be fixed), or vice versa.

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 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)
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.

COMP 3006 Software Engineering (3,2,1)
Prerequisite: COMP 2015 Data Structures and Algorithms, MATH 1205 Discrete Mathematics
This course discusses principles and practical aspects of software development.

COMP 3007 Systems Analysis and Design (3,3,0)
Prerequisite: COMP 2016 Database Management and COMP 2007 Object Oriented Programming
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 COMP3008-9 Information Systems Development Project to let students practise the development of information systems.

COMP 3008 Information Systems Development Project I (1, 1, 2)
COMP 3009 Information Systems Development Project II (1, 1, 2)
Prerequisite: COMP 2007 Object Oriented Programming, COMP 2016 Database Management
Co-requisite *For COMP 3008*: COMP 3007 Systems Analysis and Design
This course provides a chance to students to apply a methodological approach to the development 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. They will also practise the presentation and communication skills in team management, report submission and project demonstration.

COMP 3015 Data Communications and Networking (3,3,1)
Prerequisite: COMP 2007 Object Oriented Programming
Students will learn the principles of data communications, computer networks and network programming.

COMP 3016 Internship (1,0,0)
Prerequisite: Year III standing 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 3026 Digital Media Computing (3,2,2)
Prerequisite: COMP 2015 Data Structures and Algorithms, MATH 2005 Probability and Statistics for Computer Science, MATH 1005 Calculus
This course introduces basic properties of different types of digital media, namely audio, image and video in multimedia systems. As data compression is the most important enabling technology that makes modern multimedia systems possible, data compression algorithms and the international standards of these digital media will be discussed.

COMP 3027 Enterprise Information Systems (3,2,1)
Prerequisite: Year III or above standing in Computer Science or Computing and Information Systems
The course provides an advanced introduction to enterprise information systems and equips students with practical skills in the use of one type enterprise information systems.

COMP 3035 Health Information Technology (3,3,0)
Prerequisite: Year III or above standing in Computer Science, and Computing and Information Systems
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 3040 Internet and the World Wide Web (3,2,1) (E)
Prerequisite: COMP 2330 Data Communications and Networking
Students will learn the principles of the Internet and the World Wide Web, study some real-world Internet systems and applications, and learn some current topics.

COMP 3045 Advanced Algorithm Design, Analysis and Implementation (3,2,2)

Prerequisite: COMP 2007 Object Oriented Programming, COMP 2015 Data Structures and Algorithms

This course aims to help students develop advanced algorithm design and analysis skills as well as efficient programming techniques for solving a variety of challenging problems. The course has three major components: (1) theory of computation: automata, language theory, and computational complexity; (2) advanced programming techniques: collections, generic programming, and Java threads; and (3) problem solving: a variety of algorithms for real challenging problems.

COMP 3050 Distributed Computing Systems (3,3,0)

Prerequisite: COMP 2330 Data Communications and Networking

This course introduces the needs, key concepts, and techniques underlying the design and engineering of distributed computing systems. The discussion will be emphasis on communications, synchronization and concurrency control, process management, distributed file services, and case studies. Also included is an introduction to clustering computing and parallel algorithms.

COMP 3060 Digital Media Computing (3,2,2) (E)

Prerequisite: COMP 1210 Data Structures and Algorithms and MATH 1140 Computational Mathematics

This course introduces basic properties of different types of digital media, namely audio, image and video in multimedia systems. As data compression is the most important enabling technology that makes modern multimedia systems possible, data compression algorithms and the international standards of these digital media will be discussed.

COMP 3070 Digital Media Communications (3,2,1) (E)

Prerequisite: COMP 3060 Digital Media Computing

Students will learn the principles of digital media communications, study some multimedia communication systems, and learn some current topics.

COMP 3080 Computer Graphics (3,2,2) (E)

Prerequisite: COMP 1210 Data Structures and Algorithms and MATH 1140 Computational Mathematics

Students will learn the essential mathematical foundation and algorithms for creating computer graphics, and the methods of implementing these algorithms. Students will also gain practical experience on these topics by using graphics application programming interface (API).

COMP 3090 Introduction to Web Intelligence (3,3,0) (E)

Prerequisite: COMP 1180 Structured Programming and COMP 2330 Data Communications and Networking

This course introduces the fundamental concepts as well as practical applications of contemporary artificial intelligence (e.g. incorporating knowledge discovery and data mining, intelligent agents, and social network intelligence) and advanced information technology (e.g. involving wireless networks, ubiquitous devices, social networks, and data/knowledge grids) in the context of Web-empowered systems, environments, and activities. In addition, it discusses the techniques and issues central to the development of Web Intelligence (WI) computing systems.

COMP 3110 Data Mining and Knowledge Discovery (3,2,1) (E)

Prerequisite: COMP 1160 Database Management, COMP 1210 Data Structures and Algorithms, and STAT 1210 Probability and Statistics

This course is aimed at providing an overview of concepts and techniques in knowledge discovery and data mining. Relevant applications in specific domains such as medicine and health care will be covered.

COMP 3120 Intelligent Systems (3,3,0) (E)

Prerequisite: COMP 1180 Structured Programming and Year III standing

This course is aimed at providing an overview of the state-of-the art computational models and techniques for developing intelligent information systems, software solutions, and human-computer interfaces. Some practical applications in such areas as Web Intelligence, Business Intelligence and Personalized Assistance will be introduced. Related implementation issues will be discussed.

COMP 3130 Information Retrieval and Search Engine (3,2,1)

Prerequisite: COMP 1160 Database Management, COMP 1210 Data Structures and Algorithms and STAT 1210 Probability and Statistics

This course introduces the basic principles of information retrieval and search engine. Advanced models and techniques in information processing and retrieval will be covered.

COMP 3140 Computer and Network Security (3,3,0) (E)

Prerequisite: COMP 1180 Structured Programming, COMP 2330 Data Communications and Networking, and Year III standing

This course introduces the fundamental concepts and techniques in computer and network security. Topics include basic encryption techniques, cryptographic algorithms, authentication and digital signature, public key infrastructure, access control, security models, as well as their applications to, for example, IP security, Web security, and trusted operating systems. In addition, it discusses other system and programming related security issues, including non-malicious errors, computer virus, and intrusion detection.

COMP 3150 E-Technology Architectures, Tools and Applications (3,2,1) (E)

Prerequisite: COMP 2330 Data Communications and Networking and Year III standing

This course will develop students' understanding of recent developments in e-technologies including XML, Web services, service-oriented architecture, Web-enabled business processes as well as related architectures, tools and applications. It will also enable students to acquire the capability to design and develop software systems based on e-technologies and to apply them to some domain applications.

COMP 3160 Computer Vision and Pattern Recognition (3,2,1) (E)

Prerequisite: COMP 1210 Data Structures and Algorithms and MATH 1140 Computational Mathematics

This course gives students a broad knowledge on and techniques used in contemporary research on computer vision and pattern recognition.

COMP 3170 Artificial Intelligence and Machine Learning (3,2,1) (E)

Prerequisite: COMP 1210 Data Structures and Algorithms, MATH 1130 Discrete Structures and STAT 1210 Probability and Statistics

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.

COMP 3180 Theory of Computation (3,2,1)

Prerequisite: MATH 1130 Discrete Structures

This course aims to introduce the fundamental concepts in theoretical computer science. The topics include deterministic and non-deterministic finite automata, regular language, context-free language, Turing machines, Church's thesis, halting problem, computability, and complexity. Also, the formal relationships between machines, languages and grammars are addressed.

COMP 3190 Principle of Programming Language (3,2,1)

Prerequisite: COMP 1150 Object Oriented Programming

This course introduces the concepts that underline most of the programming languages students are likely to encounter, and illustrates those concepts with examples from various languages. Topics include syntax and semantic analysis, bindings, type systems, programming paradigms, control abstraction and flow, and runnable program buildup.

COMP 3210 Computer Architecture (3,2,1)

Prerequisite: COMP 1210 Data Structures and Algorithms and MATH 1130 Discrete Structures

This course provides students the ideas and concepts required to understand the architectures of modem microprocessors, including instruction set principles, pipelining, instruction-level parallelism, memory hierarchy design, I/O, and internetworking. It also provides students the analytical tools for assessing processor performance.

COMP 3220 Database System Implementation (3,3,0) (E)

Prerequisite: COMP 1160 Database Management and COMP 1210 Data Structures and Algorithms

This course is to provide an in-depth knowledge of relational database management systems (DBMS). Topics include data storage, index structures, query evaluation, transaction processing, concurrency control, and crash recovery. In addition, advanced topics such as distributed databases and data warehouses will also be covered.

COMP 3230 Advanced Software Engineering (3,2,1)

Prerequisite: COMP 2220 Software Engineering, or COMP 2010 Structured Systems Analysis and Design and COMP 2020 Object Oriented Systems Analysis and Design

This elective course further develops students' knowledge in software engineering, and discusses state-of-art techniques and research topics in the field.

COMP 3240 Advanced Topics in Networking and Digital Media (3,2,1)

Prerequisite: The prerequisite depends on the specific topics covered. The prerequisite and the selected topics will be announced before the semester starts.

Students will learn some state-of-the-art topics in networking and digital media.

COMP 3250 Advanced Topics in Theoretical Computer Science (3,3,0)

Prerequisite: Year III standing in Computer Science

This course provides an in-depth study on a selected topic of theoretical computer science. The topic to be covered may vary from semester to semester, and is to be determined by the instructor. The topic could be a specific area of algorithmic problems (e.g. graph algorithms, combinatorial optimization, etc.), or a particular algorithm design paradigm (e.g. randomized algorithms, parallel algorithms, etc.).

COMP 3430 Information Technology Professional Practices (3,2,1) (E)

Prerequisite: Year III 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 3450 Information Systems Theory and Methodology (3,2,1) (E)

Prerequisite: Year III standing in Computer Science or Computing Studies

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 students with an integrative perspective of information systems and development.

COMP 3460 Information Systems Management (3,2,1) (E)

Prerequisite: Year III standing in Computer Science or Computing Studies

The course deals with the management of information systems and technology as it is being practised in organizations today to produce value for businesses and consumers.

COMP 3490 Information Systems Professional Practices (3,2,1) (E)

Prerequisite: Year III standing in Computing Studies

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

COMP 3521-2 Final Year Project (3,0,9)

Prerequisite: Year III standing in Computer Science

Students will engage in a highly independent problem solving activity under the supervision of a faculty member and gain the practical experience of applying software systems principles and techniques acquired from the Programme to the solution of real-life problems. The project demands careful planning and creative application of underlying theories and enabling technologies. A thesis and an oral presentation are required upon successful completion of the project. This course is open to Computer Science majors only.

COMP 3551-2 Final Year Project (3,0,0)

Prerequisite: Year III standing in Computing Studies

The objective of the course is to enable students to carry out a piece of highly independent work. At the end, they will be able to demonstrate their mastery of course materials and their ability 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 Electronic Transformation in Business (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 3740 Information Systems Evaluation and Policy (3,2,1)

Prerequisite: COMP 2010 Structured Systems Analysis and Design, COMP 2020 Object-Oriented Systems Analysis and Design, and Year III standing in Computer Science or Computing Studies

This course develops students' knowledge in two areas: (1) Evaluation of information systems, and (2) Information technology policy. The first area focuses on the measure of the quality of the information systems acquisition (by purchase or by engineering) process and of the deployed system. The second area addresses the enterprise-wide IT policy and standards related to IS acquisition.

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

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 efficient programming techniques for solving a variety of challenging problems. The course has three major components: (1) theory of computation: automata, language theory, and computational complexity; (2) advanced programming techniques: collections, generic programming, and Java threads; and (3) problem solving: 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)

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)

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 (3,2,1)

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 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.

COMP 4016 Clinical Decision Support and Information Systems (3,2,1)

Prerequisite: COMP 2015 Data Structures and Algorithms, COMP 2016 Database Management

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 health care information systems.

COMP 4017 Computer and Network Security (3,3,0)

Prerequisite: COMP 2015 Data Structures and Algorithms, COMP 3015 Data Communications and Networking

This course introduces fundamental concepts and techniques in computer and network security. Topics include basic encryption techniques, cryptographic algorithms, authentication and digital signature, public key infrastructure, security models, network security, as well as their applications (e.g. IP security, Web security, trusted operating systems). Popular cryptographic standards and libraries will be introduced. Other advanced topics in computer security will also be discussed (e.g. intrusion detection, access control, secure programming, computer virus).

COMP 4025 Computer Graphics (3,2,2)
Prerequisite: COMP 2015 Data Structures and Algorithms
Students will learn the essential mathematical foundation and algorithms for creating computer graphics, and the methods of implementing these algorithms. Students will also gain practical experience on these topics by using graphics application programming interface (API).

COMP 4026 Computer Vision and Pattern Recognition (3,2,1)
Prerequisite: COMP 2015 Data Structures and Algorithms, MATH 1005 Calculus and MATH 2005 Probability and Statistics for Computer Science
This course gives students a broad knowledge on, and techniques used in contemporary research on computer vision and pattern recognition.

COMP 4027 Data Mining and Knowledge Discovery (3,2,1)
Prerequisite: COMP 2015 Data Structures and Algorithms, COMP 2016 Database Management and MATH 2005 Probability and Statistics for Computer Science
This course is aimed at providing an overview of concepts and techniques in knowledge discovery and data mining. Relevant applications in specific domains such as medicine and heath care will be covered.

COMP 4035 Database System Implementation (3,3,0)
Prerequisite: COMP 2015 Data Structures and Algorithms and COMP 2016 Database Management
This course provides an in-depth knowledge of relational database management systems (RDBMSs). Topics include data storage, index structures, query evaluation and optimization, transaction management, concurrency control and crash recovery. In addition, advanced topics such as database security, access control, distributed databases and data warehouses will also be covered.

COMP 4036 Digital Media Communications (3,2,1)
Prerequisite: COMP 3026 Digital Media Computing
Students will learn the principles of digital media communications, study some multimedia communication systems and some current topics.

COMP 4037 E-Technology Architectures, Tools and Applications (3,2,1)
Prerequisite: COMP2007 Object Oriented Programming and COMP 3015 Data Communication and Networking
This course will develop students' understanding of recent developments in e-technologies, including XML, Web services, service-oriented architecture, Web-enabled business processes, as well as related architectures, tools, and applications. It will also enable students to acquire the capability to design and develop software systems based on e-technologies and to apply them to some domain applications.

COMP 4045 Human-Computer Interaction (3,2,1)
Prerequisite: *For Computer Science Programme*: COMP 3006 Software Engineering
For Computing and Information Systems Programme: COMP 3007 Systems Analysis & Design
This course provides an introduction to and overview of the field of human-computer interaction (HCI).

COMP 4046 Information Systems Control and Auditing (3,3,0)
Prerequisite: COMP 3015 Data Communications and Networking
This course provides the theory, techniques and practical issues related to computer-based information systems control and auditing. Students will learn the concepts, approaches, and techniques to carry out information system auditing and security controls in organizations.

COMP 4047 Internet and World Wide Web (3,2,1)
Prerequisite: COMP 3015 Data Communications and Networking
Students will learn the principles of the Internet and the World Wide Web, study some real-world Internet systems and applications, and learn some current topics.

COMP 4055 Medical Image Processing and Applications (3,2,1)
Prerequisite: COMP 2015 Data Structures and Algorithms, MATH 1005 Calculus, MATH 2005 Probability and Statistics for Computer Science
The 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 4056 Nature-Inspired Computing (3,2,1)
Prerequisite: COMP 2015 Data Structures and Algorithms, MATH 1205 Discrete Mathematics
This interdisciplinary Computer Science course provides an introduction to some interesting concepts, principles, and applications of computing, which are inspired by processes and phenomena found in nature. It offers students opportunities to appreciate those concepts, develop new insights and methods, and turn them into practical problemsolving and modeling applications.

COMP 4057 Parallel and Distributed Systems (3,3,0)
Prerequisite: COMP 3015 Data Communications and Networking
This course introduces the needs, key concepts, and techniques underlying the design and engineering of parallel and distributed computing systems. The discussion will be emphasized on communications, synchronization and concurrency control, process management, distributed file services, and case studies. Also included is an introduction to parallel and distributed programming and parallel algorithms.

COMP 4065 Performance Modelling and Analysis of Computer Systems (3,2,1)
Prerequisite: MATH 1005 Calculus, MATH 2005 Probability and Statistics for Computer Science
This course provides students with basic knowledge and skills of performance modelling and analysis of computer systems. Topics to be covered include queueing systems, queueing networks, and computer simulations. In addition, some case studies will be introduced to help students acquire practical insights of this field.

COMP 4066 Principles of Programming Language (3,2,1)
Prerequisite: COMP 2007 Object Oriented Programming
This course introduces the concepts that underline most of the programming languages students are likely to encounter, and illustrates those concepts with examples from various languages. Topics include syntax and semantic analysis, bindings, type systems, programming paradigms, control abstraction and flow, and runnable program buildup.

COMP 4067 Theory of Computation (3,2,1)
Prerequisite: MATH 1205 Discrete Mathematics
This course aims to introduce some fundamental concepts in theoretical computer science. The topics include non-deterministic and deterministic finite automata, regular languages, context-free languages, pushdown automata, Church's hypothesis, Turing machines, computability, and complexity theory.

COMP 4075 Web Intelligence Concepts and Applications (3,3,0)

Prerequisite: COMP 2007 Object Oriented Programming, COMP 3015 Data Communication and Networking, MATH 2005 Probability and Statistics for Computer Science

This course introduces the fundamental concepts as well as practical applications of contemporary Artificial Intelligence (e.g. incorporating knowledge discovery and data mining, intelligent agents, and social network intelligence) and advanced Information Technology (e.g. involving wireless networks, ubiquitous devices, social networks, and data/knowledge grids) in the context of Web empowered systems, environments, and activities. In addition, it discusses the techniques and issues central to the development of Web Intelligence (WI) computing systems.

COMP 4076 Selected Topics in Digital Media and Mobile Technology (3,2,1)

Prerequisite: The prerequisite depends on the selected topics. The prerequisite and the selected topics will be announced before the semester starts.

Students will learn some state-of-the-art topics in digital media or mobile technology.

COMP 4077 Selected Topics in Enterprise Systems and Business Intelligence (3,3,0)

Prerequisite: The prerequisite depends on the specific topics covered. The prerequisite and the chosen topics will be announced before the semester starts.

Students will learn state-of-the-art topics in enterprise systems and business intelligence. Emphasis will be placed on the current issues, methodologies and/or practice. After completing this course, students will understand some current topics in and methodologies of enterprise systems and business intelligence.

COMP 4085 Selected Topics in Intelligent Informatics (3,3,0)

Prerequisite: The prerequisite depends on the specific topics covered. The prerequisite and the chosen topics will be announced before the semester starts.

This course deals with the selected topics in intelligent informatics. Students will learn some state-of-the-art topics in intelligent informatics, through which students are able to solve the problems in some selected domains, such as machine learning, planning, self-organization, evolutionary computing, data mining, Web intelligence, intelligent agents, brain informatics, and parallel and distributed information processing.

COMP 4086 Selected Topics in Theoretical Computer Science (3,3,0)

Prerequisite: COMP 3005 Design and Analysis of Algorithms

This course provides an in-depth study on a selected topic of theoretical computer science. The topic to be covered may vary from semester to semester, and is to be determined by the instructor. The topic could be a specific area of algorithmic problems (e.g. graph algorithms, combinatorial optimization), or a particular algorithm design paradigm (e.g. randomized algorithms, parallel algorithms).

COMP 4087 Selected Topics in Web Technology and Data Engineering (3,3,0)

Prerequisite: The prerequisite depends on the specific topics covered. The prerequisite and the chosen topics will be announced before the semester starts.

Students will learn state-of-the-art topics in Web technology and data engineering. Emphasis will be placed on the current issues, methodologies and/or practice. After completing this course, students will understand some current topics in and methodologies of Internet and large scale systems.

COMP 4095 Information Systems Management and Professional Practices (3,2,1)

Prerequisite: Year IV standing in Computing and Information Systems

The course deals with the management of information systems and technology as it is being practised in organizations today to produce value for businesses. It also examines important professional issues in contemporary practice to help students become effective participants in a team of professional information systems practitioners.

COMP 4096 Business Intelligence and Decision Support (3,2,1)

Prerequisite: COMP 2016 Database Management

Students will learn the methodologies and concepts of business intelligence, including the characteristics, architectures, and development of data warehouses and data marts. After completing the course, the students will understand the features and applications of Online Analytic Processing (OLAP), and identify the different types of OLAP. Emphasis will be placed on the understanding of enabling technologies and their applications to improve business operations and decision making.

COMP 4097 Mobile Computing (3,2,2)

Prerequisite: COMP 3015 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 4105 Web Search Principles and Technology (3,2,1)

Prerequisite: COMP 2007 Object Oriented Programming

This course provides a comprehensive examination of different popular search systems for diverse types of data such as text, image, video and audio information. Students will be introduced to the powerful features in these systems, as well as the technology underpinning them. Students will learn how large information repositories are efficiently organized, managed and searched, and the principles of Web search engines and information retrieval.

COMP 4888-9 Final Year Project (3,0,9)

Prerequisite: Year IV standing in Computing and Information Systems

Students will carry out a piece of highly independent work, which could be a system development project 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 4898-9 Final Year Project I & II (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 Science and Information Systems (3,3,0)

Prerequisite: BSc in Computer Science or equivalent

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 for Information Systems Development (3,2,1)

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 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 Audting (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.

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

Prerequisite: Postgraduate 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 7380 Computational Finance: Pricing and Trading (3,2,1)

Prerequisite: Postgraduate standing and basic knowledge in probability and statistics

This course is designed to introduce the principles of computational finance and financial data analysis, with an emphasis on hands-on practice. The objective is to teach the theory and application of modern quantitative finance from a computer professional's perspective. The course will cover topics such as the modeling and pricing of derivatives, time series analysis, and trading strategies. The students will also gain hands-on experience in software tools such as Finance toolbox in MATLAB, as well as in implementing financial analysis instruments.

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

Prerequisite: Postgraduate standing and basic knowledge in probability and statistics

This course is to introduce the advanced algorithm design methodologies and techniques including divide-and-conquer, linear programming, numerical methods, randomized algorithm, greedy and approximate algorithms, dynamic programming, and genetic algorithm. The financial algorithms in term structure calculation and risk management will be described. Also, the applicability issue of algorithms in financial information systems will be addressed through case studies.

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

Prerequisite: Postgraduate standing

This course introduces basic concepts in operational finance, such as opportunities, portfolio, risks returns, and liabilities. The aims of this course are to provide a study of the tools and techniques to support various stages of the decision making process and to explore key factors of successful decision support systems for finance problems. The students will learn how to apply decision support systems to various phases of financial processes.

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

Prerequisite: Postgraduate 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 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 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 search and visualization, World Wide Web design, input/output devices, and display design.

COMP 7460 MSc Practicum for Information Systems (3,*,*)

Prerequisite: Postgraduate standing

Students work on group or individual system development projects. Each project is supervised by an academic staff, and it may be co-supervised by practising professionals. The project demands careful planning and creative application of underlying theories and enabling technologies. Students can select project in consultation with their project supervisors. A written report and an oral presentation are required upon successful completion of the project. Each project will be assessed by the supervisor(s) and one additional academic staff on four aspects: (1) project management and progress, (2) methodologies and results, (3) report writing, and (4) oral presentation. Through these projects, students will develop (1) mastery of integrating concepts with practice in information systems, (2) creative and systematic problem solving skills for analysing, designing, and implementing information systems, and (3) report writing and presentation skills for effective communication in IT enterprises.

COMP 7510 Foundations of Information Technology (3,3,0)

This course introduces the basic structures and operations of the computer systems. Various components of operating systems are studied in detail. Basic concepts of data networks and LANs with respect to the OSI and TCP/IP models are examined. Students who complete this course will be suitably prepared for the other courses offered in the MSc in IT Management curriculum.

COMP 7520 Foundations of Management in the IT Context (3,3,0)

The course overviews the concepts in different business management disciplines so as to provide a foundation for students in managing IT projects and organizations.

COMP 7530 IT Forum (1,1,0)

Students are exposed to the current IT practices through seminars given by IT professionals and academic staff, interacting in small groups with IT practitioners, and/or company visits. After completing this course, students will understand the current IT practice.

COMP 7540 IT Management: Principles and Practice (3,2,1)

This course deals with the management of information systems and technology as it is being practised in organizations today to produce value for businesses and consumers.

COMP 7550 IT Project Management (3,3,0)
This course deals with project management and addresses issues in information technology project development. On completion of the course, students should (1) have acquired basic skills for project managers, (2) be able to develop and prepare project plans for effective resource utilization, and (3) be able to manage IT development projects.

COMP 7560 Information Systems Auditing (3,3,0)
This course is to give students a thorough grounding in the theory, techniques and practical issues involved in computer-based information systems auditing. The students will have an in-depth understanding of auditing concepts and methods after taking this course.

COMP 7570 IT Laws and Ethics (3,3,0)
This course examines legal and ethical issues in the use of information technology. On completion of the course, students should (1) understand intellectual property rights issues, (2) understand the legal obligations of a computer professional, (3) understand the importance of professional codes of conduct, and (4) be able to derive and justify a personal position on moral and ethical matters related to computers in society.

COMP 7580 Electronic Transformation in Business (3,3,0)
This course covers 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. How the business process related to customer relationship management, enterprise resource planning, supply chain management, etc. could be transformed in the Internet era will be covered. Some case studies related to e-transformation in Business will also be discussed. Students after taking this course should be able to (1) understand how e-technologies can facilitate process/application integration with and across enterprise, and (2) evaluate the cost and benefit that e-transformation can bring to different business processes of an enterprise.

COMP 7590 Information Management Systems Development (3,2,1)
To extend the student's knowledge of information management systems and development methodology through the study of advanced theories and methodologies, and to examine the critical issues of current information systems (IS) research, so as to provide a student an integrative perspective of information management systems and development.

COMP 7630 Web Intelligence and Its Applications (3,3,0)
Prerequisite: The pre-requisite depends on the specific topics covered. The pre-requisite and the chosen topics will be announced before the semester starts.
This course introduces the fundamental concepts as well as practical applications of Web Intelligence (WI) which combines contemporary Artificial Intelligence and advanced Information Technology in the context of Web-empowered systems, environments, and activities. Also, advanced topics related to Web Intelligence (WI) and their impact to different sectors of the society will be covered. After taking this course, students should be able to (1) identify the possible impact of Web Intelligence in the society, and (2) apply WI related techniques to advance existing Web-based systems and on-line business platforms.

COMP 7640 Database Systems and Administration (3,3,0)
This course is to provide an in-depth knowledge of relational database management systems (RDBMS). Topics include: conceptual modeling of a database, relational data model, relational algebra, database language SQL, relational database design, data storage, index structures, query evaluation, transaction processing, concurrency control, and crash recovery. In addition, advanced topics such as distributed databases and data warehouses will also be covered. The students will have a thorough understanding of RDBMS after taking this course.

COMP 7650 Data Mining and Knowledge Discovery (3,2,1)
Prerequisite: Basic knowledge in probability and statistics, basic database concepts
This course aims to introduce fundamental issues of knowledge discovery and the common data mining techniques including statistical methods and machine learning methods. Furthermore, their potential applications to a variety of areas such as business, finance, medicine, and so forth, are shown via some case studies.

COMP 7680 Internet and World Wide Web (3,3,0)
Students will learn the principles of the Internet and the World Wide Web and study some advanced/current topics. After completing this course, students will understand the principles of the Internet and the World Wide Web and be able to develop and manage Internet systems.

COMP 7700 E-Technology Architectures, Tools and Applications (3,2,1)
This course will develop students' understanding of recent developments in e-technologies, including XML, Web services, service-oriented architecture, Web-enabled business processes, as well as related architectures, tools, and applications. It will also enable students to acquire the capability to design and develop software systems based on e-technologies and to apply them to some domain applications.

COMP 7730 MSc Project (3,*,*)
Pre/co-requisite: COMP 7900 Project and Research Skills in IT Management or COMP 7920 Project Skills in IT Management
Students work on the projects proposed by themselves. Each project is supervised by an academic staff, and it may be co-supervised by practicing professionals. After completing the projects, students will submit written reports and present their results (e.g. new methodologies, IT systems, or critical surveys). Each project will be assessed by the supervisor(s) and one additional academic staff on four aspects: (1) project management and progress, (2) methodologies and results, (3) report writing, and (4) oral presentation. Through these projects, students will develop (1) mastery of integrating concepts with practice in IT Management, (2) creative and systematic problem solving skills for designing, analysing, managing or developing IT systems, (3) self-learning capability for sustainable self-development in the rapidly changing IT field, and (4) report writing and presentation skills for effective communication in IT enterprises.

COMP 7740 Supplementary Programming (0,*,*)
This course provides students with basic knowledge of computer-oriented problem solving methodologies, algorithm development, structured programming concepts and design techniques, and implementation tools that facilitate debugging and testing. In particular, structured programming skills will be illustrated with a contemporary programming language. This course is open to MSc in Information Technology Management students with inadequate programming background.

COMP 7750 Information and Knowledge Management (3,3,0)
This course introduces the basic principles and technologies of information and knowledge management. Information storage and retrieval systems, knowledge management solutions, and knowledge management systems will be covered. Students will be able to understand the impacts of information and knowledge management in business and organization. They will be able to utilize information and knowledge management to maximize productivity.

COMP 7760 Special Topics in Business Analytics (3,3,0)
Prerequisite: The pre-requisite depends on the specific topics covered. The pre-requisite and the chosen topics will be announced before the semester starts.
Students will learn state-of-the-art topics in business analytics. Emphasis will be placed on the current issues, methodologies

and/or practice. After completing this course, students will understand some current topics in and methodologies of business analytics.

COMP 7770 Special Topics in IT Management (3,3,0)
Prerequisite: The pre-requisite depends on the specific topics covered. The pre-requisite and the chosen topics will be announced before the semester starts.
Students will learn state-of-the-art topics in IT management. Emphasis will be placed on the current issues, methodologies and/or practice. After completing this course, students will understand some current topics in and methodologies of IT management.

COMP 7780 Special Topics in Knowledge and Information Management (3,3,0)
Prerequisite: The pre-requisite depends on the specific topics covered. The pre-requisite and the chosen topics will be announced before the semester starts.
Students will learn state-of-the-art topics in knowledge and information management. Emphasis will be placed on the current issues, methodologies and/or practice. After completing this course, students will understand some current topics in and methodologies of knowledge and information management.

COMP 7790 Special Topics in Internet and Web Technologies (3,3,0)
Prerequisite: The pre-requisite depends on the specific topics covered. The pre-requisite and the chosen topics will be announced before the semester starts.
Students will learn state-of-the-art topics in Internet and Web technologies. Emphasis will be placed on the current issues, methodologies and/or practice. After completing this course, students will understand some current topics in and methodologies of Internet and Web systems.

COMP 7800 Analytic Models in Information Technology Management (3,2,1)
This course aims to introduce different analytic models used in the management of information technology. These include practical applications of quantitative analysis techniques in business decision making, process modeling, planning and evaluation. The course focuses on the ability to recognize the appropriate models applicable to diverse information technology management situation, and to identify solutions to them. Emphasis will be placed on problem formulation and solution application rather than mathematical derivations.

COMP 7810 Business Intelligence (3,2,1)
Students will learn the methodologies and concepts of business intelligence, including the characteristics, architectures, and development of data warehouses and data marts. After completing the course, the students will understand the features and applications of Online Analytic Processing (OLAP), and identify the different types of OLAP. Emphasis will be placed on the understanding of enabling technologies and their applications to improve business operations and decision making.

COMP 7820 Decision Analysis and Support (3,2,1)
To provide a study of business decision making processes and the types of information systems that provide support to such processes, including the characteristics and architectures of such systems. Students will learn the challenges and techniques of managerial decision making in an environment of imperfect and changing information. Both the qualitative and the quantitative aspects of decision making will be covered.

COMP 7830 Health Informatics (3,3,0)
In this course, students will learn the following: (1) structures, operations and workflow in healthcare organizations, (2) data and data standards in the healthcare industry, (3) information technology in healthcare, and (4) health information systems.

COMP 7840 Management of Medical Visual Data (3,2,1)
In this course, students will learn (1) some fundamental image processing techniques, (2) the characteristics of different types of medical images, (3) the structure and components of visual information management systems, and (4) the architecture and application of picture archiving and communication systems.

COMP 7850 Information Security Management (3,2,1)
This course studies the principles of information security management. The course content is compatible with current industrial standard in information security (e.g. CISSP certification). The students will also learn the current topics and issues in information security management. On completion of the course, students should be able to (1) understand the principles of information security management, (2) acquire the knowledge equivalent to current industrial standard in information security (e.g. CISSP certification), and (3) identify practical information security principles and guidelines with the consideration of legal and privacy issues.

COMP 7870 IT Innovation Management and Entrepreneurship (3,3,0)
The development of information technology and innovations plays an increasingly important role in enhancing the competitiveness of countries, organizations, and individuals. Using a combination of lectures, case studies and discussions, term project, and guest lectures, this course prepares students for the technology and information economy by providing the knowledge and skills necessary for innovation management and entrepreneurship. With particular emphasis on information technology-related activities, this course aims to (1) introduce students to the fundamental concepts, practices, opportunities, and challenges related to innovation management and entrepreneurship, (2) provide students with frameworks and tools for the successful management of innovation from idea generation to market exploitation, and (3) stimulate students' interest in entrepreneurship and thus cultivating an entrepreneurial spirit.

COMP 7880 E-Business Strategies (3,3,0)
E-business offers real and abundant opportunities for small, medium and large companies throughout the world. However, success in e-business rarely happens without strategy. This course exposes students to contemporary management thinking, methods, and strategies necessary to effectively build and manage e-business systems. Using a combination of lectures, case studies and discussions, in-class assignments, and term project, this course aims to; (1) introduce students to the fundamental concepts and approaches of strategic management, (2) provide students with a comprehensive framework for understanding the business models and strategies for e-business, and (3) prepare students to be active participants in formulating and implementing e-business strategies for organizations.

COMP 7890 Dynamic Web Programming (3,2,1)
Prerequisite: Basic knowledge on database and computer programming
This course aims to cover key concepts, technologies and skills on server-side and client-side Web programming, including HTML, CSS, JavaScript, basic server-side script language, database connectivity via Web, session management, as well as more advanced topics like AJAX, JavaScript API, Web services, and Web APIs.

COMP 7900 Project and Research Skills in IT Management (3,*,*)
The course provides students with basic knowledge of and develops their skills in conducting projects and research in the field of IT management. It also develops students' skills in critical reading, thinking, and writing.

COMP 7910 MSc Research (3,*,*)
Prerequisite: COMP 7730 MSc Project (with grade B+ or above)
Each student is required to work on an academic research project independently under the supervision of an academic staff. After

completing the research projects, students will submit written research papers and present their research results. Each project will be assessed by the supervisor and one observer on four aspects: (i) project management and progress, (ii) methodologies and results, (iii) paper writing, and (iv) oral presentation. Through these research projects, students will learn and practice how to identify research problems, conduct literature reviews, criticize and analyze existing solutions, propose and evaluate new solutions, write and present research papers.

COMP 7920 Project Skills in IT Management (1,*,*)
The course provides students with knowledge of and develops their skills in conducting projects in the field of IT management. It also develops students' skill in academic writing and presentation.

CRWR 2110 Selected Readings in World Literature (3,3,0) (E)
This course introduces literature written by world authors in the 19th and 20th century. Its focus is on short stories, poems, and plays. Students will learn to analyse the artistic and imaginative use of language, and develop the ability to think creatively and critically. The course aims to deepen students' understanding of people from other cultures which helps establish knowledge for their creative works in the future.

CRWR 2120 Introduction of New Media (3,3,0) (E)
This course is designed to equip students with the essential concepts of new media. Moreover, Web, blogs, games, creative industries, citizen journalism and global knowledge economy would be introduced to students.

CRWR 2130 Creative Thinking (3,3,0) (C)
Creative Thinking is the essential course of training students how to think creatively by knowing the mechanism of our mind. Students will explore to think from various angles and perspectives applying the creative tools into actual artistic and creative work.

CRWR 2140 Cinematic Storytelling (3,3,0) (C)
This course is aimed to train students with the cinematic storytelling techniques aside from dialogues and voice over, etc. which includes how the shots language, frame, shape, colour, lighting, editing, music and sound effects tell the story. As film is a unique medium that does not solely depend on the verbal delivery of messages, film scriptwriters need to understand the fundamentals of film art as a narrative tool.

CRWR 2150 Adaptation Seminar: Literature, Drama, and Cinema (3,3,0) (E)
This course introduces the students to the creative process of various adaptations from literature into film, drama into film, and literature into drama. This seminar addresses many of the considerations associated with translating texts to film, and offers an in-depth analysis of the ways in which how adaptation works successfully use imagery and film-editing techniques to capture aspects of the original script that would have been impossible to show on stage. Literature provides filmmakers with a rich source of material for films. The students compare concrete examples of adapted films to the original works, and discuss adaptation strategies of selected works.

CRWR 2160 The Languages of New Media (3,3,0) (E)
The course will start creative and critical uses of media, and students will discover new tools and new forms of communication useful throughout their studies. Students will have the opportunity to begin working with still images, video, and interactive media like Facebook, You tube, Blogs, Web2.0, Interactive Television, Games and mobile phone film/video to create a range of creative and interactive projects. The expressive range of screen languages in cultural, historical, and technological contexts will also be introduced. Discussions will focus on specific topics in digital culture with attention to visual communication, hyper-textuality, interactivity and visual identity.

CRWR 2170 Mobile Communication (3,3,0) (E)
This course will train students to have a better understanding of Mobile Communication in contemporary information society. Students will have the opportunities to gain knowledge on mobile communication history, the relation between mobile communication and youth culture as well as mobile communication and its transformation of the democratic process. By the end of the course, students will be able to understand how the rapid emergence of online interactions with mobile communication technology has reshaped their lifestyle.

CRWR 2180 Creative Writing for New Media I (3,3,0) (C)
This course is aimed to train students with the practical skills for writing scripts, especially for E-books, E-magazine, mobile phone films/video and digital radio broadcasting creatively. The general principle in creative writing for new media will be introduced from week 1 to 5. The second part will focus on writing scripts for mobile phone film/video, and digital radio broadcasting. A new way of interactive storytelling, creative mindset and grammar are highly emphasized.

CRWR 2210 Television Writing Workshop I (3,3,0) (C)
This course will train students in professional scriptwriting for different TV programmes like Talk Show, Late Night Show, Reality TV, Children's Programme and TV News Magazine Show with Sit-com as the main focus. At the end of the course students will be able to write Sit-com scripts.

CRWR 2220 Television Writing Workshop II (3,3,0) (C)
This course will train students in professional scriptwriting for TV drama series and Made-for-TV movies. At the end of the course students will be able to write scripts for TV dramas.

CRWR 2310 Screenwriting Workshop I (3,3,0) (C)
This course introduces students to the craft of screenwriting, establishing a foundation for all future writing. Screenplay formatting will be a major focus, and students will learn how to write scene description, to describe characters and locations, and to develop dramatic conflict, climax, romance and humor. The course will also include script-to-screen action sequences, script-to-screen analysis, comparing well-known films to their original screenplays.

CRWR 2320 Screenwriting Workshop II (3,3,0) (C)
This course introduces students to the craft of screenwriting, establishing a foundation for all future writing. Screenplay formatting will be a major focus, and students will learn how to write characters' dialogue, monologue, voice-over, dramatic structure and the ways of storytelling narrative. The course will also include script-to-screen action sequences as well as script-to-screen analysis, comparing well-known films to their original screenplays. This course is a continuation of Screenwriting Workshop I.

CRWR 3001 Graduation Project I (3,3,0)
This course is the first section of the graduation project. It mainly helps students from generating, researching, developing, and planning ideas to writing up several high concepts, story outlines, character bios and scene breakdown for their script project in preparation for Graduation Project II. In the final year, regular consultation with graduation project supervisor will be arranged. The course provides an opportunity for students to prove they are capable of completing the project and graduating from the programme.

CRWR 3002 Graduation Project II (3,3,0)
This course is the second section of the graduation project. From the high concepts and story outline proposals produced in Graduation Project I, students will write scripts for full length feature film or animation or for certain episodes TV/Web drama