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   (1,0,3)
Laboratory I
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   (1,0,3)
Laboratory II
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   (3,3,0) (E)
Design
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   (1,0,3)
Workshop I
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   (1,0,3)
Workshop II
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   (3,2,1) (E)
and Design
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   (1,0,3)
Laboratory I
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   (1,0,3)
Laboratory II
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.