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 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 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 software 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)**
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** **(3,3,2) (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)**
Prerequisite: COMP 2007 Object Oriented Programming
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.

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