

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) (E)**

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) (E)**

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 problem solving techniques for implementing solutions for a variety of challenging problems. The course has two major components: (1) theory of computation: automata, language theory, and computational complexity; and (2) problem solving: programming for a variety of algorithms for real challenging problems.

**COMP 3050 Distributed and Cloud Computing (3,3,0) (E)**

Prerequisite: COMP 2330 Data Communications and Networking

This course introduces the techniques underlying the design and engineering of distributed systems and cloud computing systems. Topics include distributed system models, computer clusters, virtualization, datacenters, design of cloud computing platforms, and service-oriented architectures. Students will also acquire hands-on experience in cloud programming.

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

Students will learn the properties of digital media, the principles of digital media compression, the principles of digital media communication, and the protocols and methods for transporting digital media through the Internet.

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

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

Students will learn (i) the mathematical foundation and algorithms for creating computer graphics including transformation, rendering, and (ii) the algorithms for enabling Human-Object interaction in virtual environment. Students will also gain practical experience on these topics by using graphics application programming interface (API) and develop a graphics application prototype.

**COMP 3090 Social Computing and Web Intelligence (3,3,0) (E)**

Prerequisite: COMP 1180 Structured Programming

This course introduces the fundamental concepts as well as practical applications of contemporary Artificial Intelligence (e.g. incorporating knowledge discovery and data mining, social

network intelligence, and intelligent agents) and advanced information technology in the context of Web empowered social computing systems, environments, and activities. In addition, it discusses the techniques and issues central to the development of social computing and Web intelligence 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 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 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 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 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