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

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-theart techniques and acquire practical insights into the current development of this field.

COMP 3180Theory of Computation(3,2,1) (E)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, contextfree language, Turing machines, Church's thesis, halting problem,

between machines, languages and grammars are addressed.

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

computability, and complexity. Also, the formal relationships

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 3210Computer Architecture(3,2,1) (E)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) (E) 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 (3,2,1) (E) and Digital Media

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 (3,3,0) (E) Computer Science

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 (3,2,1) (E) Professional Practices

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 (3,2,1) (E) Methodology

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 (3,2,1) (E) Practices

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) (E)

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 reallife 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) (E)

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 3620Human-Computer Interaction(3,2,1) (E)Prerequisite:For Computer Science Programme: COMP 2220Software EngineeringFor Computing Studies (Information Systems)Programme:COMP 2010 Structured SystemsAnalysis and Design; COMP 2020 Object OrientedSystems 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 cooperative work, information search and visualization, World Wide Web design, input/output devices, and display design.