REGULATIONS FOR THE DEGREE OF BACHELOR OF ENGINEERING (SOFTWARE ENGINEERING) (BEng[SE]) AWARDED IN CONJUNCTION WITH THE DEGREE OF BACHELOR OF BUSINESS ADMINISTRATION (INFORMATION SYSTEMS) (BBA[IS])

(See also General Regulations and Regulations for First Degree Curricula)

Admission Requirements

1. To be eligible for admission to the course leading to the Degree of Bachelor of Engineering in Software Engineering under these regulations, a candidate shall
   (a) comply with the General Regulations; and
   (b) hold a degree of BBA(IS) from the University of Hong Kong.

Award of Degree of Bachelor of Engineering in Software Engineering

2. To be eligible for the award of the Degree of Bachelor of Engineering in Software Engineering, a candidate shall
   (a) comply with the General Regulations; and
   (b) complete the curriculum and satisfy the examiners in accordance with the regulations set out below.

Curriculum

3. The curriculum shall extend over one academic year of full-time study starting in June/July and ending in June of the following year. To complete the curriculum a candidate shall satisfy the examiners in no less than 66 credit-units of courses as prescribed in the syllabuses.

Selection of Courses

4. Unless the Head of the Department of Computer Science and Information Systems and the Director of the School of Business determine otherwise, candidates shall take courses totalling 66 credit-units in value in the year of study. Candidates shall select their courses in accordance with these regulations and the guidelines specified in the syllabuses by a prescribed date. Such selection shall be subject to approval by the Head of Department of Computer Science and Information Systems or the Director of School of Business (as the case may be). Changes to the selection of courses may be made subject to the approval of the Head of the Department of Computer Science and Information Systems or the Director of School of Business during the first two weeks of each semester, and such changes shall not be reflected in the transcript of the candidate. Requests for changes after the first two weeks of a semester shall not normally be considered, and candidates withdrawing from any course without permission after the first two weeks of a semester shall be given an F grade.

Assessment and Grades

5. Candidates shall be assessed for each of the courses which they have registered for. Candidates shall pass a course if the Board of Examiners is satisfied by the candidate's performance in the assessment, which may be conducted in any one or any combination of the following manners: written examinations or tests, continuous assessment, laboratory work, field work, project reports, or any other manner as specified in the syllabuses. Grades shall be awarded in accordance with UG5 of the Regulations for First Degree Curricula. The grades for all the attempts made will be recorded on the transcript of the candidate.

Examinations

6. Written examinations or tests shall normally be held at the end of each semester unless otherwise specified in the syllabuses. A candidate who fails in any course may be required to repeat the same course in a subsequent semester, or to take a special examination at a time specified by the Board of the Faculty. The grades for all the attempts made will be recorded in the transcript. Candidates shall not be permitted to repeat a course for which they have received a grade D or above for upgrading purposes.

Discontinuation of Study

7. A candidate who has failed to pass a course or courses shall be recommended for the discontinuation of study under General Regulation G12 if not permitted to repeat or to take a special examination for the course or courses or to undertake the study of another course or courses which enable completion of the curriculum.

Degree Classification

8. The degree of Bachelor of Engineering in Software Engineering shall be awarded under these regulations in five divisions:

    First Class Honours
    Second Class Honours Division One
    Second Class Honours Division Two
    Third Class Honours
    Pass

    The classification of honours shall be determined by the Board of the Faculty at its full discretion by taking the overall performance of candidates and other relevant factors into consideration.

SYLLABUSES FOR THE DEGREE OF BACHELOR OF ENGINEERING (SOFTWARE ENGINEERING) AWARDED IN CONJUNCTION WITH THE DEGREE OF BACHELOR OF BUSINESS ADMINISTRATION (INFORMATION SYSTEMS)

YEAR FOUR

Course code	*Course title*	*Credit-units*
BUSI0009	Business policy	6
CSIS0404	Software quality and project management	6
CSIS0405	Professionalism and ethics	6
ELEC2803	Engineering and society	3
CSIS0802	Software engineering project	12

BUSIxxxx	IS Elective [1]	12
BUSIxxxx	Business Elective [2]	6
CSISxxxx	CS Area Elective [3]	6
CSISxxxx	SE Area Elective [4]	6
CSIS1410	Industrial training	3

[1] Elective courses in the Information Systems area offered by the School of Business
[2] Elective courses offered by the School of Business
[3] Elective courses in Computer Science area offered by the Department of Computer Science and Information Systems
[4] Elective courses in Software Engineering area offered by the Department of Computer Science and Information Systems

---

Compulsory Courses

BUSI0009. Business policy (6 credit-units)

The course will review the analysis and implementation of strategic corporate decisions which encompass all functional areas of business. Students will be split into small groups and will be required to write a mini-project of not more than 5,000 words outlining the desired corporate strategy for a given corporate problem.

CSIS0404. Software quality and project management (6 credit-units)

This course covers software quality and project management. Topics in software quality include software quality assurance; software quality metrics; review; inspection and audits. Topics in project management include project planning and scheduling; project control; risk analysis; planning and monitoring; process management and process improvement; configuration management and control; software acquisition; contract briefing, negotiation and management.

Prerequisites: CSIS1401 or CSIS0297; and CSIS0403

CSIS0405. Professionalism and ethics (6 credit-units)

Topics include definitions of software engineering subject areas and professional activities; professional societies and ethics; professional competency and life-long training; uses, misuses and risks of software; information security and privacy; intellectual property and software law; software contract; social responsibilities; and software engineering standards.

ELEC2803. Engineering and society (3 credit-units)

Interaction between engineers and society; impact of technologies on society; environmental and safety issues; professional conduct and responsibility; contract law; law of tort; professional negligence and intellectual property law.

CSIS0802. Software engineering project (12 credit-units)

This is a team project, to be taken by students in the final year, which requires substantial contribution from every individual team member. The project will go through the common process of requirements, analysis, design, implementation, testing, etc. Project standards will be enforced. This may not be taken with CSIS0801 Year project.

CSIS1410. Industrial training (3 credit-units)

Elective courses in Information Systems area offered by the School of Business

BUSI0014. Decision support systems (6 credit-units)

This course studies how computer systems can be used to assist managers in making effective decisions, both structured and semi-structured, through the integrated application of model base management, knowledge base management, data base management, dialogue management and problem processing systems.

Prerequisite: BUSI1003 Introduction to management information systems or equivalent

---

BUSI0046. Advanced information systems development (6 credit-units)

This course studies how emerging information technologies affect both the information systems development process and the information systems. Topics include computer-aided software engineering tools, distributed systems, electronic data interchange, and web-based technologies. Students will carry out a field study of a new technology or new techniques.

Prerequisites: BUSI0048 Business applications development, and BUSI0052 Database development and management or equivalent

---

BUSI0053. Decision support and expert systems (6 credit-units)

This course studies a range of modern decision technologies that can aid in decision making including decision support systems, group support systems, electronic meeting systems, artificial intelligence, expert systems, genetic algorithms and neural networks. Both technical and managerial issues related to the development and implementation of information systems using the above technologies will be discussed.

Prerequisites: BUSI0048 Business applications development, and BUSI0052 Database development and management or equivalent

---

BUSI0055. Electronic commerce and virtual businesses (6 credit-units)

This course examines the progress of electronic commerce and focuses on the business opportunities and current technologies relevant to this emerging area of information technology. Students will learn how to set up a business on the Internet.

Prerequisites: BUSI1003 Introduction to management information systems, or CSIS1127 Introduction to information systems

---

BUSI0062. Information systems management and strategy (6 credit-units)

This course examines issues related to managing information systems in an organization including role of the chief information officer, information planning and business strategy, and various frameworks for understanding the function of information systems in an organization.

Prerequisite: BUSI1003 Introduction to management information systems or equivalent

BUSI0063. Internet applications development (6 credit-units)

This course studies how to develop an Internet-based business application. Resources, tools and services available on the Internet will be introduced. The JAVA programming language will be covered.

Prerequisites: BUSI0048 Business applications development, and BUSI0052 Database development and management or equivalent

---

BUSI0065. Management and security issues on the commercial internet (6 credit-units)

This course studies two key issues in developing business applications on the commercial Internet: management of the web site and security of the information stored on and obtained from the site. Issues including updating, encryption and authentication will be discussed.

Prerequisite: BUSI1003 Introduction to management information systems or equivalent

---

BUSI0066. Marketing on the commercial internet (6 credit-units)

This course studies the progress of the Internet, World Wide Web and related technologies for the marketing, selling and distribution of goods and services. Both technology and business marketing issues will be discussed.

Prerequisites: BUSI1004 Marketing, and BUSI1003 Introduction to management information systems or equivalent

---

BUSI0068. Multimedia applications development (6 credit-units)

This course introduces the various multimedia applications and the technologies based on which these applications are developed. Technologies that enable the achieving and retrieval of text, graphics, sound and video via optional storage devices will be examined.

Prerequisites: BUSI0048 Business applications development, and BUSI0052 Database development and management or equivalent

---

BUSI0074. Telecommunications policy and business (6 credit-units)

This course provides an overview of recent developments of the telecommunications industries in Hong Kong and around the Asia-Pacific Region. Telecommunications infrastructure policies introduced by respective governments in the Region and the impacts of these policies on business operations will be examined.

Prerequisite: BUSI1003 Introduction to management information systems or equivalent

---

BUSI0076. Current topics in information systems (6 credit-units)

Study of selected areas of information systems and information technology. Topics vary with recent developments and current interest.

Elective courses offered by the School of Business

Elective courses in Software Engineering area offered by the CSIS Department

CSIS0319. Object-oriented and formal development methods (6 credit-units)

To study the theory and practices in object-oriented methods and formal methods in software engineering. Topics include object-oriented analysis and design, formal specification and design, formal approaches to software testing, verification and reliability, integration of formal and informal methods.

Pre/Co-requisite: CSIS0297 or CSIS1401

CSIS0234. Computer and communication networks (6 credit-units)

Network structure and architecture; reference models; stop and wait protocol; sliding window protocols; character and bit oriented protocols; virtual circuits and datagrams; routing; flow control; congestion control; local area networks; issues and principles of network interconnection; transport protocols, and application layer; examples of network protocols.

Prerequisite: CSIS0230

CSIS0278. Introduction to database management systems (6 credit-units)

This course studies the principles, design, administration, and implementation of database management systems. Topics include: entity-relationship model, relational model, relational algebra and calculus, database design and normalization, database query languages, indexing schemes, security, integrity, concurrency control, and contemporary topics in database management systems. This course may not be taken with BUSI0052.

Prerequisites: CSIS1117 and CSIS1119; or ELEC1501

CSIS0406. Real-time and embedded systems (6 credit-units)

Topics include: specification of real-time software requirements; design, implementation, and evaluation of real-time software; analysis and verification of real-time computing system performance.

Prerequisite: CSIS0230

CSIS0407. Scientific computing (6 credit-units)

This course provides an overview and covers the fundamentals of scientific and numerical computing. Topics include numerical analysis and computation, symbolic computation, scientific visualization, architectures for scientific computing, and applications of scientific computing.

Prerequisites: CSIS1117 and CSIS1118

CSIS0201. Fundamentals of system performance modelling (6 credit-units)

Concepts of system modelling; review of basic probability; probability models, forecasting models, decision analysis, probabilistic inventory models; queuing systems, simulation modelling; Markovian decision process.

Prerequisite: CSIS1118

CSIS0408. Topics in software engineering (6 credit-units)

Advanced topics in software engineering that are of current interest.

Elective courses in Computer Science Area offered by the CSIS Department

- Level 2 and "Applications" courses (other than those in the Software Engineering area) offered by the CSIS Department.