

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)

ISSE 1 Admission Requirements

To be eligible for admission to the programme 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.
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ISSE 2 Length of Study

The curriculum shall normally extend over one academic year of full-time study.

ISSE 3 Curriculum Requirements

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;
 - (b) complete the curriculum and satisfy the examiners in accordance with these regulations; and
 - (c) satisfy the examiners in no less than 63 credit-units of courses as prescribed in the syllabuses.
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ISSE 4 Candidates shall normally select not less than 33 and not more than 39 credit-units of courses in each semester, unless otherwise permitted or required by the Board of the Faculty. Candidates who have overloaded in preceding semesters will be allowed to reduce the load by up to the equivalent number of credit-units they have passed in excess of the normal load in a subsequent semester without having to seek prior approval.

ISSE 5 Candidates with unsatisfactory academic progress may be required by the Board of the Faculty to take a reduced study load.

ISSE 6 Selection of Courses

Candidates shall select their courses in accordance with these regulations and the guidelines specified in the syllabuses before the beginning of each academic year.

ISSE 7 Assessment and Grades

Candidates shall be assessed for each of the courses which they have registered for, and assessment 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 in any other manner as specified in the syllabuses. Grades shall be awarded in accordance with UG 5 of the Regulations for the First Degree Curricula.

ISSE 8 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.

ISSE 9 A candidate will normally be recommended for discontinuation if

- (a) his/her yearly average of Semester GPA is unsatisfactory for two consecutive academic years;
 - (b) he/she has failed in a core course twice; or
 - (c) he/she has accumulated less than half of the credit-units expected of a normal load for two consecutive years.
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ISSE 10 Degree Classification

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

ISSE 11 The classification of honours shall be determined by the Board of the Faculty at its full discretion based on 180 credit-units selected in the manner specified in the syllabus for the degree of BEng(SE) awarded in conjunction with the degree of BBA(IS).

SYLLABUSES FOR THE DEGREE OF BACHELOR OF ENGINEERING (SOFTWARE ENGINEERING) AWARDED IN CONJUNCTION WITH THE DEGREE OF BACHELOR OF BUSINESS ADMINISTRATION (INFORMATION SYSTEMS)¹

The syllabuses below are subject to University's approval.

YEAR FOUR: PROGRAMME STRUCTURE

To complete the curriculum, a candidate must pass all courses listed in the following table with the exception of those indicated by +

Course code	Course title	Credit-units
BUSI0009	Business policy	6
CSIS0405	Professionalism and ethics	3
CSIS0406	Real-time and embedded systems	6
ELEC2803	Engineering and society+	3
CSIS0802	Software engineering project	12
BUSIxxxx	IS Elective ¹	12
XXXXxxxx	FBE Elective ²	6
CSISxxxx	CS Elective ³	12
XXXXxxxx	Broadening course	3
CSIS1410	Industrial training	3

¹ Elective courses in Information Systems offered by the School of Business

² Elective courses offered by the Faculty of Business and Economics, including IS electives

³ Elective courses offered by the Department of Computer Science, excluding Research Internship and Industrial Seminars. Students admitted to the BBA(IS)/BEng(SE) programme before 2001 shall take one CS elective (6 credit-units) and CSIS0803 System Integration Project (6 credit-units)

The degree classification for the BEng(SE) degree awarded to a BBA(IS)/BEng(SE) student shall be based on:

- (a) All compulsory courses and projects offered by the Department of Computer Science in the BBA(IS)/BEng(SE) syllabuses, with the following provisos:
 - (i) Where a syllabus permits a course offered by the School of Business to be taken in place of a course offered by the Department of Computer Science, then the actual course taken shall be used in the classification,
 - (ii) Workshop Training and Industrial Training shall carry a weight of zero *
 - (iii) For students admitted to the BBA(IS)/BEng(SE) programme in or before 2001, the course ELEC1801 replaces the CS course in Engineering Mathematics;
- (b) The following three compulsory language and communications courses:
 - (i) Practical Chinese language course for business, economics and finance students,
 - (ii) Business communication,
 - (iii) English for computer science, or Professional and technical communication for computer science;

¹ This syllabus applies to students admitted to the BEng(SE) programme in the academic year 2006 and 2007.

* A weight of zero is given so that the Pass/Fail grade will not lower the classification

- (c) The following two courses on information systems development:
 - (i) Information systems development and project management I,
 - (ii) Information systems development and project management II;
 - (d) For students admitted to the BBA(IS)/BEng(SE) programme in 2001 or 2002: the best 18 credit-units of elective courses offered by the Department of Computer Science, excluding Research Internship and Industrial Seminars;
For students admitted to the BBA(IS)/BEng(SE) programme in all other years: the best 12 credit-units of elective courses offered by the Department of Computer Science, excluding Research Internship and Industrial Seminars;
 - (e) The best 18 credit-units of IS and FBE elective courses taken as part of the Year 4 syllabus;
 - (f) The best 18 credit-units from the following courses:
 - (i) Business policy,
 - (ii) Engineering and society,
 - (iii) Broadening course,
 - (iv) Principles of management,
 - (v) Introduction to economics.
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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.

CSIS0405. Professionalism and ethics (3 credit-units)

This course exposes students to issues of professionalism in computing. Topics included professional societies and ethics, professional competency and life-long learning, methods and tools of analysis, risks and liabilities of computer-based systems, intellectual property and software law, information security and privacy, and the social impacts of computing.

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

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.

CSIS0803. System integration project (6 credit-units)

This is a team project involving development and integration of software components. The objective is to put the concepts and theories covered in the core courses into practice. The output will be a distributed software system based on well-defined requirements. Software tools will be used and system programming is a compulsory part of the project.

CSIS0802. Software engineering project (12 credit-units)

This is a team project, to be taken in the final year, which requires substantial individual contribution from every team member. The project requires students to complete end-to-end development of a software product for a real-world client. Students take their project from an initial concept through to final delivery and deployment, applying modern software process and strict standards of quality throughout. This may not be taken with CSIS0801 Year project.

CSIS1410. Industrial training (3 credit-units)

Industrial Training requires students to spend a minimum of six weeks employed, full-time, as IT interns or trainees. During this period, they are engaged in work of direct relevance to their programme of study. CSIS1410 provides students with practical, real-world experience and represents a valuable complement to their academic training.

Elective courses in Information Systems offered by the School of Business**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. Information systems security management (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.

BUSI0088. Artificial intelligence for business applications (6 credits)

This course focuses on the fundamentals of Artificial Intelligence (AI) and their applications in business. Students will learn how to use various AI techniques to solve real-world business problems and gain hands-on experience in developing and using different AI tools. Topics to be covered include: basics of AI, uses of AI in business applications, AI algorithms, e.g., neural networks, decision trees, genetic algorithms, intelligent agents, human computer interaction, knowledge management technologies, document management, AI for customer relationship management, expert systems, data mining, text mining, web mining, other current topics.

Prerequisites: Proficiency in Java Programming and BUSI0048 Business applications development or equivalent; and BUSI0052 Database development and management or equivalent

BUSI0091. Business intelligent systems (6 credit-units)

This course is designed to provide an overview of business intelligent systems (BIS) and their use in the business environment. Topics include business intelligent systems/technology concepts, introduction to various BIS (e.g., Knowledge Management Systems), and business cases for BIS development and adoption.

Prerequisites: BUSI1003 Introduction to management information systems

BUSI0092. Advanced database management & data mining (6 credit-units)

The course will consist of two parts. In the first part of the course, advanced database concepts such as views, triggers, stored procedures, SQL*Plus and PL/SQL, will be covered. Other topics that may be covered include database administration and performance tuning. In the second part of the course, various techniques in data mining such as decision trees, neural networks, clustering etc. will be covered with suitable business related examples.

Prerequisite: BUSI0052 Database development and management *or* CSIS0278 Introduction to database management systems

BUSI0093. Enterprise resources planning systems (6 credit-units)

This course is designed to provide an overview of enterprise resource planning systems and their use in the business environment. Topics include basic Enterprise Resource Planning Systems concepts, business processes, functions and data requirements as well as systems implementation issues.

Prerequisites: BUSI1003 Introduction to management information systems

BUSI0094. Managing e-business transformation (6 credit-units)

The course provides a roadmap for managers planning to transform their companies into an inter-networked enterprise where shared infrastructures are used to link customers, suppliers, partners and employees to create superior economic value. It covers e-business strategy, infrastructure, process management, and integration and implementation. The course is based on the premise that integrating Internet technologies throughout the value chain is crucial in building and managing customer relationships and thus brand equity.

Elective courses offered by the Faculty of Business and Economics

Elective courses offered by the Department of Computer Science

- Level 2 and “Applications” courses offered by the Department of Computer Science.