

Engineering and Information Technologies.

Changes to current programs for 2008.

The Faculty of Engineering has approved the following UoS changes to be implemented in 2008. There are a number of new units of study, particularly in the SIT and EIE courses. These are all outcomes of the extensive review and rationalisation of these offerings given the new structure of the Faculty and wide-ranging review processes. No new courses are offered in this proposed restructure. A new BIT-BCom course proposal has been submitted in a separate document to the board for consideration. In the following sections the unit of study changes proposed for 2008 from each school of the faculty are outlined.

1. School of Aerospace, Mechanical and Mechatronic Engineering.

The changes cover stream specialisation tables for streams,

Aeronautical, Aeronautical(Space), Mechanical, Mechanical(Biomedical), Mechanical(Space), Mechatronics, Mechatronics(Space),

Retain the same core program units of study as in 2007 with a few exceptions. These being AMME 1060 Engineering Applications which will be replaced by the unit AMME 1550 Engineering Dynamics and the replacement of the MECH4060 3 cp Professional Engg 2 unit with AMME 4060 Professional Engg 2 which is more widely focused 6 cp unit. The first year change will help better prepare students who are new to the university in the theoretical area of Dynamics for progression into the more advanced level follow on 2nd and 3rd year units.

New six credit point project based electives have been introduced, replacing many of the older 3 cp elective units and adding new advanced level project work for students in the Space Engineering streams.

Replacement of large cp value exchange units with a consistent set of 6 cp exchange program units.

2. School of Civil Engineering

All Civil programs are unchanged except for the general replacement of CHEM 1011 Chemistry 1A with PHYS 1001 Physics Regular. This change to first year means a better alignment of programs for AMME 1st year, Civil 1st year and the Flexible First Year stream A. With more commonality it is easier for students to switch between first year streams if they change their choice of stream in 1st year.

3. School of Chemical Engineering

No changes to programs for Chemical Engineering in 2008.

4. School of School of Information Technologies.

Changes to the structure of existing degrees in EIE and SIT are based on extensive reviews undertaken in the last two years; the Eades Report, reviewing the offerings in Software and IT by the schools of EIE and SIT; the academic board review of the Engineering & IT faculty; and the accreditation report of EIE from Engineers Australia. A significant number of unit changes are proposed for 2008. This has also been followed by a review of the flexible first year program for Software and IT students and will be supported by the new faculty structure with the inclusion of the School of IT into the Faculty in 2007. Common areas between the two schools have been amalgamated into common units of study. Rationalisation of the teaching and alignment of the Science based IT programs with the similar four year Engineering based programs has been undertaken for 2008. New teaching schedules for BE(Software), BE(Computer), BIT, BCST and BSCT(Advanced) have been developed based on this restructure. There has also been an impact on related EIE degrees of BE(Telecomms) and BE(Electrical) due to the rearrangement of units of study.

The revised programs for SIT school is as follows,

Overview of BIT, BCST, BCST(Advanced) programs.

Year/Semester	Unit1	Unit2	Unit3	Unit4
Y1/S1	INFO1103	ENGG1805	6 cp of Maths	Free Elective
Y1/S2	INFO1105	CS:ELEC1601 IS: INFO1003	6 cp of Maths	Free Elective
Y2/S1	INFO2120	CS:COMP2129 IS: ISYS2140	6 cp of Maths	Free Elective
Y2/S2	INFO2110	CS: COMP2007 IS: INF02135	2000-level Rec Elective	Free Elective
Y3/S1	INFO3402	CS: Rec Elective appropriate for the stream IS: ISYS3401	3000-level Rec Elective	Free Elective

BCST,
BCST
(Adv)

Y3/S2	BIT & BCST (Adv): INFO3600	BIT & BCST (Adv): INFO3600	3000-level Rec Elective	Free Elective
	BCST (CS): COMP3615	BCST: Rec Elective appropriate for the stream		
	BCST (IS): ISYS3400			
Y4/S1	BIT: 3000- level or above Rec elective Hons: INFO5990	BIT: 3000- level or above Rec elective Hons: INFO4991	BIT: 3000- level or above Rec elective Hons: 4000- level or above rec elective	BIT: 3000- level or above Free Elective Hons: 4000-level or above Rec elective
Y4/S2	BIT: 3000- level or above Rec elective Hons: INFO4992	BIT: 3000- level or above Rec elective Hons: INFO4992	BIT: 3000- level or above Rec elective Hons: 4000- level or above Rec elective	BIT: 3000- level or above Free elective Hons: 4000-level or above Rec elective

} BIT and/or
Honours

Specific Programs.

1. Bachelor of Information Technology

TABLE: SIT-BIT-UOS

Units of Study	Credit Points	A: Assume Knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
<p>Candidates for the degree Bachelor of Information Technology (BIT) are required to gain credit for 192 credit points from the units of study set out below. The selection of units must satisfy the degree rules in the Resolutions of the Faculty. In particular, all core units must be completed, along with an appropriate amount from the elective units of study as recommended by the Faculty. Candidates for the BIT degree must complete a stream in either Computer Science or Information Systems as described in Table SIT-BIT-STREAMS.</p> <p>Through this Table, candidates may substitute an Advanced equivalent for a non-Advanced unit</p>			

Units of Study	Credit Points	A: Assume Knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
mentioned. They may also substitute an appropriate unit from the Advanced Engineering program of the Faculty of Engineering, or the Talented Student Program of the Faculty of Science, if they are eligible to enrol in such units.			
Students are required to complete all the core units, or other mutually exclusive units such as their Adv Equivalent			
First Year Core Students are required to complete all the core units, or other mutually exclusive units such as their Adv Equivalent			
INFO1103 Introduction to Programming (INFO1903 is the Advanced version)	6		Semester 1 Semester 2
ENGG1805 Professionalism in Engineering and IT	6		Semester 1
INFO1105 Data Structures (INFO1905 is the Advanced version)	6		Semester 2
First Year Recommended Electives <i>Note that the choice of recommended electives must satisfy the requirements of either the Computer Science stream, or of the Information Systems stream, or both, as described in Table SIT-BIT-STREAMS</i>			
INFO1003 Foundations of Information Technologies	6		Semester 1 Semester 2
ELEC1601 Foundations of Computer Systems	6		Semester 2
ELEC1103 Foundations of Electronic Engineering	6		Semester 1
Also, all first year Mathematics and Statistics units as described in Table SIT-BIT-MATHS			
Second Year Core Students are required to complete all the core units, or other mutually exclusive units such as their Adv Equivalent			
INFO2120 Database Systems 1 (INFO2820 is the Advanced version)	6		Semester 1
INFO2110 Systems Analysis and Modelling	6		Semester 2

Units of Study	Credit Points	A: Assume Knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
Second Year Recommended Electives			
<i>Note that the choice of recommended electives must satisfy the requirements of either the Computer Science stream, or of the Information Systems stream, or both, as described in Table SIT-BIT-STREAMS</i>			
COMP2007 Algorithms and Complexity (COMP2907 is the Advanced version)	6		Semester 2
COMP2129 Operating Systems and Machine Principals	6		Semester 1
ISYS2140 Introduction to Information Systems	6		Semester 1
INFO2315 Introduction to IT Security	6		Semester 2
INFO2345 Introduction to Bioinformatics	6		Semester 2
All 2000-level ELEC units are valid recommended electives			
Also, all second year Mathematics and Statistics units as described in Table SIT-BIT-MATHS			
Third Year Core			
Students are required to complete all the core units, or other mutually exclusive units such as their Adv Equivalent			
INFO3402 Management of IT Projects and Systems	6		Semester 1
INFO3600 Major Project Development	12		Semester 2
Third Year Recommended Electives			
<i>Note that the choice of recommended electives must satisfy the requirements of either the Computer Science stream, or of the Information Systems stream, or both, as described in Table SIT-BIT-STREAMS</i>			
INFO3220 Object Oriented Design	6		Semester 1
INFO3404 Database Systems 2 (INFO3504 is the Advanced version)	6		Semester 2
COMP3109 Programming Languages and	6		Semester 1

Units of Study	Credit Points	A: Assume Knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
Paradigms			
ELEC3506 Data Communications and the Internet	6		Semester 2
COMP3520 Operating System Internals	6		Semester 1
INFO3315 Human-Computer Interaction	6		Semester 2
COMP3308 Introduction to Artificial Intelligence (COMP3608 is the Advanced version)	6		Semester 2
COMP3419 Graphics and Multimedia	6		Semester 2
ISYS3041 Analytic Methods for IS Professional	6		Semester 1
ELEC3610 E-Business Analysis and Design	6		Semester 1
ELEC3609 Internet Software Platforms	6		Semester 2
ELEC3607 Embedded Computing	6		Semester 2
All 3000-level and above ELEC units are valid recommended electives			
Fourth Year – Honours Option Core			
All students in BIT(Honours) must complete the following 24 credit points of core requirements. These units are only available to students enrolled in Honours degrees, those in Research Higher degrees, or those in the Research track in postgraduate coursework degrees.			
INFO5995 IT Research Methods	6		Semester 1
INFO4991 Research Thesis 1	6		Semester 1
INFO4992 Research Thesis 2	12		Semester 2
Fourth Year – Recommended Electives			
Students in the BIT(Honours) degree must complete at least 18 credit points from this list. Students in BIT can enrol in these units if qualified; they must complete during their fourth year at least 36 credit points which are either from this list or from the 3 rd year recommended electives.			
COMP5046 Statistical Natural Language Processing	6		Semester 1
ISYS5050	6		Semester 1

Units of Study	Credit Points	A: Assume Knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
Knowledge Management and Systems			
COMP5147 Pervasive Computing	6		Semester 1
COMP5425 Multimedia Storage, Retrieval and Delivery	6		Semester 1
COMP5425 Multimedia Authoring and Production	6		Semester 2
COMP5426 Network Based High Performance Computing	6		Semester 1
COMP5318 Knowledge Discovery and Data Mining	6		Semester 1 Semester 2
COMP5348 Enterprise Scale Software Architecture	6		Semester 1
COMP5048 Information Visualization	6		Semester 2
COMP5416 Advanced Network Technologies	6		Semester 2
COMP5338 Advanced Data Models	6		Semester 1 Semester 2
COMP5424 IT in Biomedicine	6		Semester 1
INFO5991 IT Professional Services	6		Semester 1 Semester 2
INFO5992 Understanding IT Innovation	6		Semester 1 Semester 2
ELEC4605 Computer Architecture	6		Semester 1
ELEC5508 Wireless Engineering	6		Semester 2
ELEC5509 Mobile Networks	6		Semester 1
ELEC5514 Networked Embedded Systems	6		Semester 2
ELEC5609 Object-Oriented Application Frameworks	6		Semester 2
ELEC5613 Image Processing and Computer Vision	6		Semester 1

Units of Study	Credit Points	A: Assume Knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
ELEC5614 Real Time Computing	6		Semester 2
ELEC5615 Advanced Computer Architecture	6		Semester 2
ELEC5616 Computer and Network Security	6		Semester 1
ELEC5617 Topics in Software Engineering	6		Semester 1
ELEC5618 Software Quality Engineering	6		Semester 1

Electives

Electives give the student an opportunity to broaden their education in areas of their individual preference outside of Information Technologies. Students may enrol in undergraduate units taught in other Schools and Faculties, provided they meet the entry requirements of those units, and the Faculty and School offering the unit agree to the student's enrolment. Students are encouraged to consult the Handbooks of the Faculties of Engineering and IT, Science, Arts, and Economics and Business, for a wide range of choices.

Electives are subject to the following constraints:

1. At most 72 credit points accumulated from first year units (core, recommended electives and others) can be counted for degree completion
 2. At least 84 credit points must be accumulated from third and fourth year units (core, recommended electives, and others)
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Honours

The BIT may be awarded as an Honours degree. Students may enrol in the Honours course after completion of 144 credit points, if they meet the specified entry conditions. **It is important to note that the mechanism for the Honours award for the BE degree and the BIT degree are quite different.** The BE (Honours) is awarded automatically once the criterion for the Honours is met which includes a timely completion of the Pass degree with a level of performance defined by the GWAM. Students enrolled in a BIT degree must apply for enrolment into the Honours program after completion of 144 credit points.

TABLE: SIT-BIT-STREAMS

Units of Study	Credit Points	A: Assume Knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
<p>Candidates for the BIT degree must complete a stream in either Computer Science or Information Systems, or both.</p> <p>To complete a stream involves fulfilling the requirements below which involve units in Years 1-3.</p> <p>To complete a double stream, students must complete the required units of both streams, and additional “select core” units as described below.</p>			
(i) Stream in Computer Science			
Students must complete all the required units, or other mutually exclusive units such as their Advanced equivalent			
First Year Required for CS Stream			
INFO1103 Introduction to Programming (INFO1903 is the Advanced version)	6		Semester 1 Semester 2
ENGG1805 Professionalism in Engineering and IT	6		Semester 1
INFO1105 Data Structures (INFO1905 is the Advanced version)	6		Semester 2
ELEC1601 Foundations of Computer Systems	6		Semester 2
Second Year Required for CS Stream			
INFO2110 Systems Analysis and Modelling	6		Semester 2
COMP2007 Algorithms and Complexity (COMP2907 is the Advanced version)	6		Semester 2
INFO2120 Database Systems 1 (INFO2820 is the Advanced version)	6		Semester 1
COMP2129 Operating Systems and Machine Principals	6		Semester 1
Third Year Required for CS Stream			

INFO3402 Management of IT Projects and Systems	6		Semester 1
INFO3600 Major Project Development	12		Semester 2
Third Year Select Core for CS Stream: Students must complete at least 12 credit points from the following list			
<i>CS & IS Double Stream:</i> Students must complete 24 credit points from the combination of the “select core” for the CS stream and the “select core” for the IS stream, including at least 12 from the list below.			
INFO3220 Object Oriented Design	6		Semester 1
INFO3404 Database Systems 2	6		Semester 1
(INFO3504 is the Advanced version)			
COMP3109 Programming Languages and Paradigms	6		Semester 1
ELEC3506 Data Communications and the Internet	6		Semester 2
COMP3520 Operating System Internals	6		Semester 1
INFO3315 Human-Computer Interaction	6		Semester 2
COMP3308 Introduction to Artificial Intelligence	6		Semester 2
(COMP3608 is the Advanced version)			
COMP3419 Graphics and Multimedia	6		Semester 2
ELEC3609 Internet Software Platforms	6		Semester 2
(ii) Stream in Information Systems			
Students must complete all the required units, or other mutually exclusive units such as their Advanced Equivalent			
First Year Required for IS Stream			
INFO1103 Introduction to Programming (INFO1903 is the Advanced version)	6		Semester 1 Semester 2
ENGG1805 Professionalism in Engineering	6		Semester 1

and IT			
INFO1003 Foundations of Information Technologies	6		Semester 1 Semester 2
(INFO1903 is the Advanced version)			
INFO1105 Data Structures	6		Semester 2
(INFO1905 is the Advanced version)			
Second Year Required for IS Stream			
INFO2110 Systems Analysis and Modelling	6		Semester 1
ISYS2140 Introduction to Information Systems	6		Semester 1
INFO2120 Database Systems 1	6		Semester 2
(INFO2820 is the Advanced version)			
INFO2315 Introduction to IT Security	6		Semester 2
Third Year Required for IS Stream			
INFO3402 Management of IT Projects and Systems	6		Semester 1
ISYS3041 Analytic Methods for IS Professional	6		Semester 1
INFO3600 Major Project Development	12		Semester 2
Third Year Select Core for IS Stream: Students must complete at least 6 credit points from the following list			
<i>CS & IS Double Stream:</i> Students must complete 24 credit points from the combination of the “select core” for the CS stream and the “select core” for the IS stream, including at least 6 from the list below.			
INFO3404 Database Systems 2	6		Semester 2
(INFO3504 is the Advanced version)			
ELEC3610 E-Business Analysis and Design	6		Semester 1
INFO3315 Human-Computer Interaction	6		Semester 2

TABLE:SIT-BIT-MATH

Maths/Statistics requirement: All 1000-level and 2000-level units offered in the Science subject areas of Mathematics and Statistics are legal as recommended electives. At least 18 credit points from this selection are required.

The School of IT strongly recommends a selection from the following Maths/Statistics units. Advanced versions of the units can be taken wherever available. Students with weak high school background in Mathematics should consult advisors from the School of Mathematics and Statistics, to find appropriate alternatives.

MATH1001 Differential Calculus	3		Semester 1
MATH1002 Linear Algebra	3		Semester 1
MATH1003 Integral Calculus and Modelling	3		Semester 2
MATH1004 Discrete Maths	3		Semester 2
MATH1005 Statistics	3		Semester 2
MATH2069 Discrete Mathematics and Graph Theory	6		Semester 1
MATH2063 Math Computing and Nonlinear Systems	6		Semester 1
STAT2012 Statistical Tests	6		Semester 2

Bachelor of Computer Science and Technology

TABLE: SIT-BCST-UOS

Units of Study	Credit Points	A: Assume Knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
<p>Candidates for the degree Bachelor of Computer Science and Technology (BCST) are required to gain credit for 144 credit points from the units of study set out below. The selection of units must satisfy the degree rules in the Resolutions of the Faculty. In particular, all core units must be completed, along with an appropriate amount from the elective units of study as recommended by the Faculty. Candidates for the BCST degree must complete a stream in either Computer Science or Information Systems, or both, as described in Table SIT-BCST-STREAMS.</p> <p>Through this Table, candidates may substitute an Advanced equivalent for a non-Advanced unit mentioned. They may also substitute an appropriate unit from the Advanced Engineering program of the Faculty of Engineering, or the Talented Student Program of the Faculty of Science, if they are eligible to enrol in such units.</p>			
<p>Students are required to complete all the core units, or other mutually exclusive units such as their A equivalent</p>			
<p>First Year Core Students are required to complete all the core units, or other mutually exclusive units such as their A equivalent</p>			
INFO1103 Introduction to Programming (INFO1903 is the Advanced version)	6		Semester 1 Semester 2
ENGG1805 Professionalism in Engineering and IT	6		Semester 1
INFO1105 Data Structures (INFO1905 is the Advanced version)	6		Semester 2
<p>First Year Recommended Electives <i>Note that the choice of recommended electives must satisfy the requirements of either the Computer Science stream, or of the Information Systems stream, or both, as described in Table SIT-BCST-STREAMS</i></p>			
INFO1003 Foundations of Information Technologies	6		Semester 1 Semester 2
ELEC1601 Foundations of Computer Systems	6		Semester 2
ELEC1103 Foundations of Electronic Engineering	6		Semester 1
<p>Also, all first year Mathematics and Statistics units as described in Table SIT-BCST-MATHS</p>			

Units of Study	Credit Points	A: Assume Knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
Second Year Core			
Students are required to complete all the core units, or other mutually exclusive units such as their A equivalent			
INFO2110 Systems Analysis and Modelling	6		Semester 2
INFO2120 Database Systems 1 (INFO2820 is the Advanced version)	6		Semester 1
Second Year Recommended Electives			
<i>Note that the choice of recommended electives must satisfy the requirements of either the Computer Science stream, or of the Information Systems stream, or both, as described in Table SIT-BCST-STREAMS</i>			
COMP2007 Algorithms and Complexity (COMP2907 is the Advanced version)	6		Semester 2
COMP2129 Operating Systems and Machine Principals	6		Semester 1
ISYS2140 Introduction to Information Systems	6		Semester 1
INFO2315 Introduction to IT Security	6		Semester 2
INFO2345 Introduction to Bioinformatics	6		Semester 2
All 2000-level ELEC units are valid recommended electives.			
Also, all second year Mathematics and Statistics units as described in Table SIT-BCST-MATHS			
Third Year Core			
Students are required to complete all the core units, or other mutually exclusive units such as their A equivalent			
INFO3402 Management of IT Projects and Systems	6		Semester 1
Third Year Recommended Electives			
<i>Note that the choice of recommended electives must satisfy the requirements of either the Computer Science stream, or of the Information Systems stream, or both, as described in Table SIT-BCST-STREAMS</i>			
COMP3615 Software Development Project	6		Semester 2

Units of Study	Credit Points	A: Assume Knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
ISYS3400 Information Systems Project	6		Semester 2
INFO3220 Object Oriented Design	6		Semester 1
INFO3404 Database Systems 2 (INFO3504 is the Advanced version)	6		Semester 2
COMP3109 Programming Languages and Paradigms	6		Semester 1
ELEC3506 Data Communication and the Internet	6		Semester 2
COMP3520 Operating System Internals	6		Semester 1
INFO3315 Human-Computer Interaction	6		Semester 2
COMP3308 Introduction to Artificial Intelligence (COMP3608 is the Advanced version)	6		Semester 2
COMP3419 Graphics and Multimedia	6		Semester 2
ISYS3041 Analytic Methods for IS Professional	6		Semester 1
ELEC3610 E-Business Analysis and Design	6		Semester 1
ELEC3609 Internet Software Platforms	6		Semester 2
ELEC3607 Embedded Computing	6		Semester 2
All 3000-level and above ELEC units are valid recommended electives.			

Electives

Electives give the student an opportunity to broaden their education in areas of their individual preference outside of Information Technologies. Students may enrol in undergraduate units taught in other Schools and Faculties, provided they meet the entry requirements of those units, and the Faculty and School offering the unit agree to the student's enrolment. Students are encouraged to consult the Handbooks of the Faculties of Engineering and IT, Science, Arts, and Economics and Business, for a wide range of choices.

Electives are subject to the following constraints:

1. At most 72 credit points accumulated from first year units (core, recommended electives and others) can be counted for degree completion

Honours

Students who have qualified for the BCST degree may apply to enter the BCST(Honours) year. Note that unlike BIT(Honours) or BE(Honours), the Honours in BCST requires an additional 48 credit points of study.

TABLE: SIT-BCST-STREAMS

Units of Study	Credit Points	A: Assume Knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
Candidates for the BCST degree must complete a stream in either Computer Science or Information Systems, or both. To complete a stream involves fulfilling the requirements below which involve units in Years 1-3. To complete a double stream, students must complete the required units of both streams, and additional “select core” units as described below.			
(i) Stream in Computer Science			
Students must complete all the required units, or other mutually exclusive units such as their Advanced equivalent			
First Year Required for CS Stream			
INFO1103 Introduction to Programming (INFO1903 is the Advanced version)	6		Semester 1 Semester 2
ENGG1805 Professionalism in Engineering and IT	6		Semester 1
INFO1105 Data Structures (INFO1905 is the Advanced version)	6		Semester 2
ELEC1601 Foundations of Computer Systems	6		Semester 2
Second Year Required for CS Stream			
INFO2110 Systems Analysis and Modelling	6		Semester 2
COMP2007 Algorithms and Complexity	6		Semester 2

Units of Study	Credit Points	A: Assume Knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
(COMP2907 is the Advanced version)			
INFO2120 Database Systems 1	6		Semester 1
(INFO2820 is the Advanced version)			
COMP2129 Operating Systems and Machine Principals	6		Semester 1
Third Year Required for CS Stream			
INFO3402 Management of IT Projects and Systems	6		Semester 1
COMP3615 Software Development Project	6		Semester 2
Third Year Select Core for CS Stream: Students must complete at least 12 credit points from the following list <i>CS & IS Double Stream:</i> Students must complete 24 credit points from the combination of the “select core” for the CS stream and the “select core” for the IS stream, including at least 12 from the list below.			
INFO3220 Object Oriented Design	6		Semester 1
INFO3404 Database Systems 2	6		Semester 2
(INFO3504 is the Advanced version)			
COMP3109 Programming Languages and Paradigms	6		Semester 1
ELEC3506 Data Communications and the Internet	6		Semester 2
COMP3520 Operating System Internals	6		Semester 1
INFO3315 Human-Computer Interaction	6		Semester 2
COMP3308 Introduction to Artificial Intelligence	6		Semester 2
(COMP3608 is the Advanced version)			
COMP3419 Graphics and Multimedia	6		Semester 2

Units of Study	Credit Points	A: Assume Knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
ELEC3610 Internet Software Platforms	6		Semester 2
(ii) Stream in Information Systems			
Students must complete all the required units, or other mutually exclusive units such as their Advanced Equivalent			
First Year Required for IS Stream			
INFO1103 Introduction to Programming (INFO1903 is the Advanced version)	6		Semester 1 Semester 2
ENGG1805 Professionalism in Engineering and IT	6		Semester 1
INFO1003 Foundations of Information Technologies (INFO1903 is the Advanced version)	6		Semester 1 Semester 2
INFO1105 Data Structures (INFO1905 is the Advanced version)	6		Semester 2
Second Year Required for IS Stream			
INFO2110 Systems Analysis and Modelling	6		Semester 1
ISYS2140 Introduction to Information Systems	6		Semester 1
INFO2120 Database Systems 1 (INFO2820 is the Advanced version)	6		Semester 2
INFO2315 Introduction to IT Security	6		Semester 2
Third Year Required for IS Stream			
INFO3402 Management of IT Projects and Systems	6		Semester 1
ISYS3041 Analytic Methods for IS Professional	6		Semester 1
ISYS3400	6		Semester 2

Units of Study	Credit Points	A: Assume Knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
Information Systems Project			
Third Year Select Core for IS Stream: Students must complete at least 6 credit points from the following list			
<i>CS & IS Double Stream:</i> Students must complete 24 credit points from the combination of the select core for the CS stream and the select core for the IS stream, including at least 6 from the list below.			
INFO3404 Database Systems 2 (INFO3504 is the Advanced version)	6		Semester 2
ELEC3610 E-Business Analysis and Design	6		Semester 1
INFO3315 Human-Computer Interaction	6		Semester 2

TABLE:SIT-BCST-MATH

Maths/Statistics requirement: All 1000-level and 2000-level units offered in the Science subject areas of Mathematics and Statistics are legal as recommended electives. At least 18 credit points from this selection are required.

The School of IT strongly recommends a selection from the following Maths/Statistics units. Advanced versions of the units can be taken wherever available. Students with weak high school background in Mathematics should consult advisors from the School of Mathematics and Statistics, to find appropriate alternatives.

MATH1001 Differential Calculus	3		Semester 1
MATH1002 Linear Algebra	3		Semester 1
MATH1003 Integral Calculus and Modelling	3		Semester 2
MATH1004 Discrete Maths	3		Semester 2
MATH1005 Statistics	3		Semester 2
MATH2069 Discrete Mathematics and Graph Theory	6		Semester 1
MATH2063 Math Computing and Nonlinear Systems	6		Semester 1
STAT2012 Statistical Tests	6		Semester 2

Bachelor of Computer Science and Technology (Advanced)

TABLE: SIT-BCST(A)-UOS

Units of Study	Credit Points	A: Assume Knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
<p>Candidates for the degree Bachelor of Computer Science and Technology (Advanced) (BCST(Adv)) are required to gain credit for 144 credit points from the units of study set out below. The selection of units must satisfy the degree rules in the Resolutions of the Faculty. In particular, all core units must be completed, along with an appropriate amount from the elective units of study as recommended by the Faculty. Candidates for the BCST(Adv) degree must complete a stream in either Computer Science or Information Systems, or both, as described in Table SIT-BCST(A)-STREAMS. Through this Table, candidates may substitute an Advanced equivalent for a non-Advanced unit mentioned. They may also substitute an appropriate unit from the Advanced Engineering program of the Faculty of Engineering, or the Talented Student Program of the Faculty of Science, if they are eligible to enrol in such units.</p>			
<p>Students are required to complete all the core units.</p>			
<p>First Year Core</p>			
<p>Students are required to complete all the core units, or other mutually exclusive units such as their Advanced equivalent</p>			
INFO1103 Introduction to Programming (INFO1903 is the Advanced version)	6		Semester 1 Semester 2
ENGG1805 Professionalism in Engineering and IT	6		Semester 1
INFO1105 Data Structures (INFO1905 is the Advanced version)	6		Semester 2
<p>First Year Recommended Electives</p>			
<p><i>Note that the choice of recommended electives must satisfy the requirements of either the Computer Science stream, or of the Information Systems stream, or both, as described in Table SIT-BIT-STREAMS</i></p>			
INFO1003 Foundations of Information Technologies	6		Semester 1 Semester 2
ELEC1601 Foundations of Computer Systems	6		Semester 2
ELEC1103 Foundations of Electronic Engineering	6		Semester 1

Units of Study	Credit Points	A: Assume Knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
Also, all first year Mathematics and Statistics units as described in Table SIT-BCST(A)-MATHS			
Second Year Core			
Students are required to complete all the core units, or other mutually exclusive units such as their Adva equivalent			
INFO2110 Systems Analysis and Modelling	6		Semester 2
INFO2820 Database Systems 1 (Advanced)	6		Semester 1
COMP2907 Algorithms and Complexity (Advanced)	6		Semester 2
Second Year Recommended Electives			
<i>Note that the choice of recommended electives must satisfy the requirements of either the Computer Science stream, or of the Information Systems stream, or both, as described in Table SIT-BCST(A)-STREAMS</i>			
COMP2129 Operating Systems and Machine Principals	6		Semester 1
ISYS2140 Introduction to Information Systems	6		Semester 1
INFO2315 Introduction to IT Security	6		Semester 2
INFO2345 Introduction to Bioinformatics	6		Semester 2
All 2000-level ELEC units are valid recommended electives.			
Also, all second year Mathematics and Statistics units as described in Table SIT-BCST(A)-MATHS			
Third Year Core			
Students are required to complete all the core units, or other mutually exclusive units such as their Adva equivalent			
INFO3402 Management of IT Projects and Systems	6		Semester 1
INFO3600 Major Project Development	12		Semester 2
Third Year Recommended Electives			

Units of Study	Credit Points	A: Assume Knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
<i>Note that the choice of recommended electives must satisfy the requirements of either the Computer Science stream, or of the Information Systems stream, or both, as described in Table SIT-BCST(A)-STREAMS</i>			
INFO3220 Object Oriented Design	6		Semester 1
INFO3404 Database Systems 2 (INFO3504 is the Advanced version)	6		Semester 2
COMP3109 Programming Languages and Paradigms	6		Semester 1
ELEC3506 Data Communications and the Internet	6		Semester 2
COMP3520 Operating System Internals	6		Semester 1
INFO3315 Human-Computer Interaction	6		Semester 2
COMP3308 Introduction to Artificial Intelligence (COMP3608 is the Advanced version)	6		Semester 2
COMP3419 Graphics and Multimedia	6		Semester 2
ISYS3041 Analytic Methods for IS Professional	6		Semester 1
ELEC3610 E-Business Analysis and Design	6		Semester 1
ELEC3609 Internet Software Platforms	6		Semester 2
ELEC3607 Embedded Computing	6		Semester 2
All 3000-level and above ELEC units are valid recommended electives.			
Also, appropriate Honours units from Table SIT-BIT-UOS, with permission.			

Electives

Electives give the student an opportunity to broaden their education in areas of their individual preference outside of Information Technologies. Students may enrol in undergraduate units taught in other Schools and Faculties, provided they meet the entry requirements of those units, and the Faculty and School offering the unit agree to the student's enrolment. Students are encouraged to consult the Handbooks of the Faculties of Engineering and IT, Science, Arts, and Economics and Business, for a wide range of choices.

Electives are subject to the following constraints:

1. At most 72 credit points accumulated from first year units (core, recommended electives and others) can be counted for degree completion

Honours

Students who have qualified for the BCST(Adv) degree may apply to enter the BCST(Adv)(Honours) year. Note that unlike BIT(Honours) or BE(Honours), the Honours in BCST(Adv) requires an additional 48 credit points of study.

TABLE: SIT-BCST(A)-STREAMS

Units of Study	Credit Points	A: Assume Knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
Candidates for the BCS(Adv) degree must complete a stream in either Computer Science or Information Systems, or both.			
To complete a stream involves fulfilling the requirements below.			
To complete a double stream, students must complete the required units of both streams, and additional electives as described below.			
(i) Stream in Computer Science			
Students must complete all the required units, or other mutually exclusive units such as their Advanced equivalent			
First Year Required for CS Stream			
INFO1103 Introduction to Programming (INFO1903 is the Advanced version)	6		Semester 1 Semester 2
ENGG1805 Professionalism in Engineering and IT	6		Semester 1
INFO1105 Data Structures (INFO1905 is the Advanced version)	6		Semester 2
ELEC1601 Foundations in Computer Systems	6		Semester 2
Second Year Required for CS Stream			
INFO2110 Systems Analysis and Modelling	6		Semester 2
COMP2907 Algorithms and Complexity (Advanced)	6		Semester 2
INFO2820 Database Systems 1 (Advanced)	6		Semester 1
COMP2129	6		Semester 1

Units of Study	Credit Points	A: Assume Knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
Operating Systems and Machine Principals			
Third Year Required for CS Stream			
INFO3402 Management of IT Projects and Systems	6		Semester 1
INFO3600 Major Project Development	12		Semester 2
Third Year Select Core for CS Stream: Students must complete at least 12 credit points from the following list <i>CS & IS Double Stream:</i> Students must complete 24 credit points from the combination of the select core for the CS stream and the select core for the IS stream, including at least 12 from the list below.			
INFO3220 Object Oriented Design	6		Semester 1
INFO3404 Database Systems 2 (INFO3504 is the Advanced version)	6		Semester 2
COMP3109 Programming Languages and Paradigms	6		Semester 1
ELEC3506 Data Communications and the Internet	6		Semester 2
COMP3520 Operating System Internals	6		Semester 1
INFO3315 Human-Computer Interaction	6		Semester 2
COMP3308 Introduction to Artificial Intelligence (COMP3608 is the Advanced version)	6		Semester 2
COMP3419 Graphics and Multimedia	6		Semester 2
ELEC3609 Internet Software Platforms	6		Semester 2
(ii) Stream in Information Systems Students must complete all the required units, or other mutually exclusive units such as their Advanced Equivalent			
First Year Required for IS Stream			
INFO1103 Introduction to Programming (INFO1903 is the Advanced version)	6		Semester 1 Semester 2

Units of Study	Credit Points	A: Assume Knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
ENGG1805 Professionalism in Engineering and IT	6		Semester 1
INFO1003 Foundations of Information Technologies (INFO1903 is the Advanced version)	6		Semester 1 Semester 2
INFO1105 Data Structures (INFO1905 is the Advanced version)	6		Semester 2
Second Year Required for IS Stream			
INFO2110 Systems Analysis and Modelling	6		Semester 1
ISYS2140 Introduction to Information Systems	6		Semester 1
INFO2820 Database Systems 1 (Advanced)	6		Semester 2
COMP2907 Algorithms and Complexity (Advanced)	6		Semester 2
INFO2315 Introduction to IT Security	6		Semester 2
Third Year Required for IS Stream			
INFO3402 Management of IT Projects and Systems	6		Semester 1
ISYS3041 Analytic Methods for IS Professional	6		Semester 1
INFO3600 Major Project Development	12		Semester 2
Third Year Select Core for IS Stream: Students must complete at least 6 credit points from the following list <i>CS & IS Double Stream:</i> Students must complete 24 credit points from the combination of the “select core” for the CS stream and the “select core” for the IS stream, including at least 6 from the list below.			
INFO3404 Database Systems 2 (INFO3504 is the Advanced version)	6		Semester 1
ELEC3610 E-Business Analysis and Design	6		Semester 1
INFO3315 Human-Computer Interaction	6		Semester 2

Units of Study	Credit Points	A: Assume Knowledge P: Prerequisites C: Corequisites N: Prohibition	Session
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5. School of Electrical and Information Engineering

As per the changes made by SIT, concurrent changes have been introduced by EIE. The main program changes are in the degrees Computer Engineering and Software Engineering. There are less significant changes to the other EIE streams in terms of their IT component.

Revised Program for BE(Computer Engineering)

First year

ELEC1103	Foundations of Electronic Engineering
ELEC1601	Foundations of Computer Systems
ENGG1805	Professional Engineering and IT
MATH1001	Differential Calculus
MATH1002	Linear Algebra
MATH1003	Integral Calculus and Modelling
MATH1005	Statistics
PHYS1001	Physics 1 (Regular)
PHYS1003	Physics 1 (Technological)
INFO1103	Introduction to Programming
INFO1105	Data Structures

Second year

ELEC2103	Simulation & Numerical Solutions in Eng.
ELEC2104	Electronic Devices and Basic Circuits
ELEC2302	Signals and Systems
ELEC2602	Digital System Design
MATH2061	Linear Mathematics and Vector Calculus
PHYS2213	Physics 2EE
COMP2129	Operating Systems and Machine Principals

Third year

ELEC3506	Data Communications and the Internet
ELEC3607	Embedded Computing
At least 3 of the following 6 units of study:	
ELEC3104	Engineering Electromagnetics
ELEC3304	Control
ELEC3305	Digital Signal Processing
ELEC3404	Electronic Circuit Design

ELEC3702 Management for Engineers
COMP3520 Operating System Internals

Fourth year

ELEC4605 Computer Architecture
ELEC4702 Practical Experience
ELEC4707 Engineering Project

Notes:

1. The Mathematics, Physics and Information Technology units of study offered by the Faculty of Science may be replaced by equivalent advanced level units of study (if available) subject to prerequisite conditions being met.
2. Candidates for the BE/BMedSc in the combined degree course shall replace ELEC 4707 Engineering Project with ELEC 4705 Interdisciplinary Project.

All candidates for the Bachelor of Engineering in Computer Engineering degree (including those enrolled in a combined degree) must satisfy the requirements described in the table of core units of study.

Candidates will also need to choose a number of recommended units of study for Computer Engineering, which consist of:

- * all level 3, 4 and 5 ELEC and EBUS units which do not appear in the table of core units; and
- * such other units of study as may be so designated by the Head of School.

Candidates for the 4-year Bachelor of Engineering in Computer Engineering degree are required to complete a total of not less than 192 credit points including at least 168 credit points made up of units from the table of core units and recommended units of study. The additional 24 credit points may consist, in whole or in part, of free elective units of study approved by the Head of School.

Revised Program for BE(Software Engineering)

All candidates for the Bachelor of Engineering in Software Engineering degree (including those enrolled in a combined degree) must satisfy the requirements described in the table of core units of study.

Candidates will also need to choose a number of recommended units of study for Software Engineering, which consist of:

- * all level 1, 2, 3, 4 and 5 EIE and SIT units which do not appear in the table of core units;
- * the units of study listed in the table of additional recommended units of study; and
- * such other units of study as may be so designated by the Head of School.

Bachelor of Engineering in Software Engineering

Candidates for the 4-year Bachelor of Engineering in Software Engineering degree are required to complete a total of not less than 192 credit points including at least 168 credit points made up of units from the table of core units and recommended units of study with no more than 18 credit points of recommended elective units from level 1, and 2. The additional 24 credit points may consist, in whole or in part, of free elective units of study approved by the Head of School.

Bachelor of Engineering in Software Engineering in a combined degree course

Candidates in the combined degree course of Bachelor of Engineering in Software Engineering with the Bachelor of Science or Bachelor of Arts are required to complete at least 156 credit points made up of units from the table of core units and recommended units of study with no more than 18 credit points of recommended elective units from level 1, and 2

Candidates in the combined degree course of Bachelor of Engineering in Software Engineering with the Bachelor of Medical Science are required to complete at least 156 credit points made up of units from the table of core units and recommended units of study with no more than 18 credit points of recommended elective units from level 1, but may choose to replace up to 12 credit points of recommended units with CHEM 1101: Chemistry 1A and BIOL 1001: Concepts in Biology.

Candidates in the combined degree course of Bachelor of Engineering in Software Engineering with the Bachelor of Commerce or Bachelor of Laws are required to complete at least 144 credit points made up of units from the table of core units and recommended units of study with no more than 18 credit points of recommended elective units from level 1, and 2.

Candidates in all combined degree courses shall also satisfy such other requirements for the combined course as are prescribed in the joint resolutions of the Faculty of Engineering and Information Technologies and the second faculty concerned.

Software Engineering core units of study

First year

ELEC 1601	Foundations of Computer Systems
ENGG1805	Professional Engineering and IT
MATH 1001	Differential Calculus
MATH 1002	Linear Algebra
MATH 1003	Integral Calculus and Modelling
MATH 1005	Statistics
INFO1103	Introduction to Programming
INFO1105	Data Structures

Second year

INFO 2110	Systems Analysis and Modelling
INFO 2120	Database Systems 1
INFO2315	Introduction to IT Security
MATH2069	Discrete Mathematics and Graph Theory
COMP2007	Algorithms and Complexity
COMP2129	Operating Systems and Machine Principals

Third year

COMP3610	Software Development Projects
ELEC3609	Internet Software Platforms
INFO3220	Object Oriented Design
INFO3315	Human-Computer Interaction
INFO3402	Management of IT Projects and Systems

Fourth year

COMP5348	Enterprise Scale Software Development
ELEC 4702	Practical Experience
ELEC 4707	Engineering Project or (INFO4991 Research Thesis A and INFO4992 Research Thesis B)
ELEC5618	Software Quality Engineering

Additional Software Engineering recommended units of study

ACCT1003	Financial Accounting Concepts
ACCT1004	Management Accounting Concepts
MKTG1001	Marketing Principles
CLAW2206	Legal Issues for e-Commerce
MATH2061	Linear Algebra and Vector Calculus
PHYS1001	Physics (Regular)
PHYS1003	Physics (Technological)
PHYS2213	Physics 2EE

Notes:

1. The Mathematics, Physics and Information Technology units of study offered by the Faculty of Science may be replaced by equivalent advanced level units of study (if available) subject to prerequisite conditions being met.
2. Candidates for the BE/BMedSc in the combined degree course shall replace ELEC 4707 Engineering Project with ELEC 4705 Interdisciplinary Project.

Electrical, Electrical(Power), Telecommunications

Revisions to other EIE stream in Electrical, Electrical(Power) and Telecommunications have the following revised common first year and some minor changes to core and recommended electives in later years.

Electrical Engineering First Year core units of study

First year

ELEC1103	Foundations of Electronic Engineering
ELEC1601	Foundations of Computer Systems
ENGG1805	Professional Engineering and IT
MATH1001	Differential Calculus
MATH1002	Linear Algebra
MATH1003	Integral Calculus and Modelling
MATH1005	Statistics
PHYS1001	Physics 1 (Regular)
INFO1103	Introduction to Programming
INFO1105	Data Structures

In later years the core unit, SOFT2130 Software Construction 1 will be renamed
COMP2129 Operating Systems and Machine Principals