The University of Sydney

Undergraduate Studies Committee Agenda

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Appendix 3

to Agenda for the meeting on Wednesday 2 April 2008

10.3 Faculty of Engineering and Information Technologies

10.3.1 Bachelor of Engineering (Chemical Engineering) ***page 5***

This proposal is to delete the specialisation of Chemical Engineering in the Bachelor of Engineering. It is to be replaced by the Bachelor Engineering (Chemical and Biomolecular Engineering).

Recommendation

That the Undergraduate Studies Committee recommend that the Academic Board:

(1) approve the proposal from the Faculty of Engineering to delete the specialisation of Chemical Engineering in the Bachelor of Engineering,

(2) recommend that Senate:

(a) endorse the Academic Board's approval of the proposal to delete this specialisation; and

(b) approve the amendment of the Resolutions of the Senate relating to the Bachelor of Engineering in the Faculty of Engineering and Information Technologies, and the deletion of the Resolutions of Senate relating to the course,

(3) approve the amendment of the Faculty Resolutions relating to the Bachelor of Engineering,

with effect from 1January 2009, as set out in the report.

10.3.2 Bachelor of Engineering (Chemical and Biomolecular Engineering) [BE(Chem and Biomolecular)] ***page 6***

This specialisation is to replace the deleted Bachelor of Engineering (Chemical Engineering).

Recommendation

That the Undergraduate Studies Committee recommend that the Academic Board:

(1) approve the proposal of the Faculty of Engineering and Information Technologies for the introduction of the Bachelor of Engineering(Chemical and Biomolecular Engineering) specialisation to the Bachelor of Engineering and recommend that Senate:

(a) endorse the Academic Board's approval of the proposal to introduce this specialisation,

(b) approve the amendment of the Resolutions of the Senate relating to the Bachelor of Engineering in the Faculty of Engineering and Information Technologies, and

(2) note the Resolutions of the Faculty relating to the above course, made pursuant to the University of Sydney (Coursework) Rule 2000 (as amended); and

(3) approve the faculty requirements relating to admission, units of study, the pass degree, combined degrees, the honours degree, specially designated streams and award of the degree,

with effect from 1 January 2009, as set out in the report.

10.3.3 with the Faculty of Architecture, Design and Planning
Bachelor of Engineering/ Bachelor of Design in Architecture [BE/BDesArch] ***page 36***

Recommendation

That the Undergraduate Studies Committee recommend that the Academic Board:

(1) approve the proposal of the Faculty of Engineering and Information Technologies and the Faculty of Architecture, Design and Planning for the introduction of a combined Bachelor of Engineering/ Bachelor of Design in Architecture, and recommend that Senate:

(a) endorse the Academic Board's approval of the proposal to introduce this course,

(b) approve the amendment of the Resolutions of the Senate relating to the Degree, Diplomas and Certifications in the Faculty of Engineering and Information Technologies and the Faculty of Architecture, Design and Planning, and

(c) approve the adoption of the new Resolutions of the Senate relating to tis course, made pursuant to the University of Sydney (Coursework) Rule 2000,

(2) note the Resolutions of the Faculties relating to the above courses, made pursuant to the University of Sydney (Coursework) Rule 2000 (as amended); and

(3) approve the faculty requirements relating to admission, units of study, the pass degree, combined degrees, the honours degree, specially designated streams and award of the degree,

with effect from 1 January 2009, as set out in the report.

10.3.4 with the Faculty of Arts ***page 67***
Bachelor of Information Technology/Bachelor of Arts [BIT/BA]

Recommendation

That the Undergraduate Studies Committee recommend that the Academic Board:

(1) approve the proposal of the Faculty of Engineering and Information Technologies and the Faculty of Arts for the introduction of a combined Bachelor of Information Technology and Bachelor of Arts, and recommend that Senate:

(a) endorse the Academic Board's approval of the proposal to introduce these courses,

(b) approve the amendment of the Resolutions of the Senate relating to the Degree, Diplomas and Certifications in the Faculty of Engineering and Information Technologies and the Faculty of Arts, and

(c) approve the adoption of the new Resolutions of the Senate relating to this course, made pursuant to the University of Sydney (Coursework) Rule 2000,

(2) note the Resolutions of the Faculties relating to the above courses, made pursuant to the University of Sydney (Coursework) Rule 2000 (as amended); and

(3) approve the faculty requirements relating to admission, units of study, the pass degree, combined degrees, the honours degree, specially designated streams and award of the degree,

with effect from 1 January 2009, as set out in the report.

10.3.5 with the Faculty of Science ***(page 102)***
Bachelor of Information Technology/Bachelor of Medical Science [BIT/BMedSc]

Recommendation
That the Undergraduate Studies Committee recommend that the Academic Board:
(1) approve the proposal of the Faculty of Engineering and Information Technologies and the Faculty of Science for the introduction of a combined Bachelor of Information Technology and Bachelor of Medical Science, and recommend that Senate:
(a) endorse the Academic Board's approval of the proposal to introduce this course,
(b) approve the amendment of the Resolutions of the Senate relating to the Degree, Diplomas and Certifications in the Faculty of Engineering and Information Technologies and the Faculty of Science, and
(c) approve the adoption of the new Resolutions of the Senate relating to this course, made pursuant to the University of Sydney (Coursework) Rule 2000,
(2) note the Resolutions of the Faculties relating to the above courses, made pursuant to the University of Sydney (Coursework) Rule 2000 (as amended); and
(3) approve the faculty requirements relating to admission, units of study, the pass degree, combined degrees, the honours degree, specially designated streams and award of the degree,
with effect from 1 January 2009, as set out in the report.

10.3.6 with the Faculty of Science ***(page 135)***
Bachelor of Information Technology/Bachelor of Science [BIT/BSc]

Recommendation
That the Undergraduate Studies Committee recommend that the Academic Board:
(1) approve the proposals of the Faculty of Engineering and Information Technologies and the Faculty of Science for the introduction of a combined Bachelor of Information Technology and Bachelor of Science, and recommend that Senate:
(a) endorse the Academic Board's approval of the proposal to introduce this course,
(b) approve the amendment of the Resolutions of the Senate relating to the Degree, Diplomas and Certifications in the Faculty of Engineering and Information Technologies and the Faculty of Science, and
(c) approve the adoption of the new Resolutions of the Senate relating to this course, made pursuant to the University of Sydney (Coursework) Rule 2000,
(2) note the Resolutions of the Faculties relating to the above courses, made pursuant to the University of Sydney (Coursework) Rule 2000 (as amended); and
(3) approve the faculty requirements relating to admission, units of study, the pass degree, combined degrees, the honours degree, specially designated streams and award of the degree,
with effect from 1 January 2009, as set out in the report.

SECTION 1: ACADEMIC BOARD COURSE PROPOSAL

PART 1: OVERVIEW OF PROPOSAL

Faculty: Engineering and Information Technologies
Department/School presenting the proposal: School of Information Technologies

Faculty Contact person: Annette Alexander **Ext. No: 18556**
Academic Proponent : A/Prof Tim Langrish (HoS Chem & Biomolecular Engg)
Email: T.Langrish@ usyd.edu.au

Date course approved by Faculty: Engineering and IT : 18-03-2008

1.1.1. Type of proposal:

Deletion X *For deletion of a course please complete Part 1, and Part 2 items 1.2.1, 1.2.2, 1.2.9 and 1.2.11.*

1.1.2. Type of course:

Undergraduate	☒
Postgraduate coursework	☐
Postgraduate research	☐
Other (provide details)	☐

1.1.3. Name of award course(s)
Name of award course/s to be deleted:
Bachelor of Engineering (Chemical Engineering)

1.1.4. Abbreviated name
BE(Chemical)

1.1.5. Date of introduction or deletion

Unavailable to new enrolments from : Year 2009 Semester 1

PART 2: DETAILS FOR ASSESSMENT OF PROPOSAL

For justification please see the full details for the replacement course,

Bachelor of Engineering(Chemical and Biomolecular)

10.3.2
SECTION 1: ACADEMIC BOARD COURSE PROPOSAL

PART 1: OVERVIEW OF PROPOSAL

Faculty: Engineering and Information Technologies
School presenting the proposal: School of Chemical and Biomolecular Engineering

Faculty Contact person Annette Alexander (Faculty Secretary) Ext. No: 18556

Academic Proponent Associate Professor Tim Langrish (HoD Chemical and Biomolecular Engineering)
E-mail: T.Langrish@usyd.edu.au

Date course approved by Faculty: 18 Mar 2008

1.1.1. Type of proposal: Amended ☒

1.1.2. Type of course: Undergraduate ☒
Postgraduate Coursework ☐
Postgraduate Research ☐
Other (provide details) ☐

1.1.3. Name of Award course(s)
Name of Amended Award course:

Bachelor of Engineering (Chemical and Biomolecular Engineering)

1.1.4 Abbreviated name

BE(Chem and Biomolecular)

1.1.5. Date of introduction or deletion

Introduced: Year 2009 Semester 1

1.1.6 Availability to students

Commonwealth supported students	☒	Full-time	☒
		Part-time	☐
Fee-paying local students	☒	Full-time	☒
		Part-time	☐
Fee-paying international students	☒	Full-time	☒
		Part-time	☐

SECTION 1 : ACADEMIC BOARD COURSE PROPOSAL

Part 2: DETAILS FOR Assessment of proposal

1.2.1 Purpose of the proposal

The proposal recommends an award course, the Bachelor of Engineering (Chemical and Biomolecular Engineering). The course is designed to meet the engineering needs of our increasingly higher dependence on bio-technology and the molecular-level manipulation of chemical processes. Students will be equipped with the knowledge, understanding and expertise to design processes and materials using these technologies.

1.2.2 Justification for proposal

Provide a statement explaining:

(a) why is the proposal necessary ?
(b) the background to the proposal and why it is being put forward;
There is a demand for an engineering course with an emphasis on bio-technology and the molecular-level manipulation of chemical processes. This is a rapidly growing technological field, and the University must produce graduates equipped with the knowledge, understanding and expertise to design processes and materials using these processes.

(c) the academic rationale for the proposal;
Analyses of chemical engineering, both overseas (Churchill, 2007) and in Australia (Gomes *et al.*, 2007), suggest that the nature of chemical engineering education needs to change in response to changes in the engineering world and to anticipate future changes that are likely to occur. Particular features of this change include chemical engineering becoming more multi-disciplinary, in general, and more strongly scientifically orientated, in particular, with a special emphasis on biological systems and a more molecular level of understanding. The nature of chemical engineering education therefore needs to change to reflect these external driving forces.

References
Churchill, S. (2007), "Role of universalities in chemical engineering", *Industrial and Engineering Chemistry Research*, **46**(24), 7851-7869.

Gomes, V.G., Barton, G.W., Petrie, J.G., Romagnoli, J.A., Holt, P., Abbas, A., Cohen, B., Harris, A.T., Haynes, B.S., Langrish, T.A.G., Orellana, J., See, H.T., Valix, M. and White, D. (2007), "Chemical engineering curriculum renewal", *Transactions of the IChemE, Part D, Education for Chemical Engineers*, **1**, 116-125.

(d) the learning and teaching objectives of the proposed course;
The proposed course has the following teaching and learning objectives.

Particular emphasis is placed on collaborative problem-solving, professional development, learning within a broad social context, and the preparation of students as lifelong learners. The School believes that student learning is not simply the transference of knowledge and skills, but also incorporates a process of intellectual, ethical and other transcending experiences. The proposed program will see this done in a integrated manner.

These approaches will enable us to produce graduates of high calibre having the requisite scientific, engineering and generic skills to effectively serve the profession and the community.

Specifically, the course will produce students with the following generic attributes and skills :

Research Enquiry: An appreciation of the ubiquitous role of chemical and biomolecular engineering in modern technology. An awareness of this technology as a dynamic field with rapid changes taking place on a continual basis.

Information Literacy: An ability to gather, manage, integrate and critique technical information attained from various sources in order to ascertain the relevant information required for the identification, formulation and solution of a problem.

Personal and Intellectual Autonomy: Graduates of this degree will be able to work independently and sustainably , in a way that is informed by openness, curiosity and a desire to meet new challenges.

Ethical, Social and Professional Understanding: An ability to function in, and lead, a multi-disciplinary and multi-cultural team. This is especially important since modern engineering projects transcend disciplinary and national boundaries.

Communication: Graduates of the degree will be able to effectively communicate ideas to both technical and non-technical audiences.

(e) how the proposal relates to the University's strategic plan, goals and priorities and the Faculty plan;

In recent years biotechnology and associated disciplines have been the object of increased focus from the University and Faculty. This proposed degree program fits neatly within this.

(f) the proposal's relevance to students, employers and professional organisations;

Industry feedback has been positive to the proposed program, as can be seen from the survey responses, as described in Section 1.2.4 and Appendix. In addition, there is support from the student body for the proposed program, as indicated by the survey results, as described in Section 1.2.4 and Appendix.

(g) any implications the proposal may have on the University's existing offerings

There will be no effect on the University's existing offerings. It should be noted that consultations have taken place regarding this proposal between the School of Molecular and Microbial Biosciences (HoS A/Prof Arthur Cosgrove) and our School of Chemical and Biomolecular Engineering (HoS A/Prof Tim Langrish and A/Prof Howard See (Director of Undergraduate Studies)).

1.2.3 Benchmarking, market research and analysis

Surveys conducted with potential employers and students show that there is clearly a need for an award which combines a deep knowledge of chemical processes with an understanding of the key aspects of biomolecular engineering, an emerging technology.

For example, as shown below, the University of Melbourne's Department of Chemical & Biomolecular Engineering, a leader in this field, has an engineering degree which specifically combines chemical and bio-related technologies.

(iii) Summary table of competitive offerings to proposed award course:

Institute	Competitive Offering	Additional information

Uni. Of Melbourne	BE(Chemical and Biomolecular Engineering)	4 yr program; commenced in 2005

(iv) Estimated Student Demand (intake per year)

Estimated Student Demand	2009	2010	2011
Commonwealth-supported	25	35	35
Local fee-paying	5	5	10
International fee-paying	10	10	15
Estimated Total EFTSU	40	50	60
Lowest EFTSU for which course would be run	15	20	25

Estimated Full-time and Part-time Students	2009	2010	2011
Estimated number of Full-time students	100%	100%	100%
Estimated number of Part-time students	0	0	0

Impact on students currently enrolled: The proposed course may have an impact on the students currently enrolled in BE(Chem) as they will have the option of either electing to receive their degree as BE(Chem) (under which they originally entered the School's program), or to receive the degree as BE(Chem and Biomolecular).

Enrolment Quotas:

Will quotas be set for the proposed award course or for any units of study within the award course?

For local fee-paying students
Yes ☐
No ☒

For international fee-paying students
Yes ☐
No ☒

5.1.1 Consultation and External References

Consultees	Date of consultation	Method of consultation	Type of supporting evidence provided
Survey of industrial	Dec 2007	Email survey	Report on survey results –

representatives			industrial representatives (attached)
Chemical and Biomolecular Engineering Foundation (industrial representatives)	12 Feb 2008	Meeting	Report on meeting with industrial representatives (attached)
Students	10 Oct 2007	Focus Group	Report on meeting with student focus group (attached)
Students	Oct 2007	Paper survey	Report on survey results – students (attached)

1.2.5 Course structure

Award Course	Length of candidature (years)	Type of Enrolment	
		Full-time	Part-time
Bachelor of Engineering (Chemical and Biomolecular Engineering)	Minimum 4	x	
	Maximum 8		
	Minimum		
	Maximum		

(b) Minimum credit points required for completion of qualification: 192 credit points.

(c) Mode of delivery: Face-to-face teaching ☒ Distance education ☐
Offshore delivery ☐
Please provide justification This Degree is delivered face to face.

(d) Does the course involve clinical or industrial placement/experience?
Yes ☒ No ☐
If Yes, please provide details : All BE students must complete 12 weeks of industrial experience.

(e) Please indicate what processes are in place to guarantee the quality of academic staffing, available resources for teaching and provision of adequate curriculum delivery, assessment and authentication of student work.

The existing units in our School are taught using processes which have been in place for many years. The new program will also follow these well-established processes.

1.2.6 Assessment procedures

Proposed Assessment Regime	Proportion of assessment regime (%)	Use of external assessors/examiners (Yes/No) (if yes, please provide details)
The assessment regime will use the existing assessment regime in the School, for the present individual award of BE (Chem).		No

1.2.7 Student workload

(a)

Expected Workload	Total Time Expected (per uos per week)
Lectures	2
Tutorials and lab	2
Practical experience	
Independent study	3
Reading and work for assessment	5

Others (please specify):	

(b) Provide an indication of how the academic course load including the weight given to any dissertation component compare with other similar course loads in the faculty/college/university
For coursework, similar to BE(Chem) requirement

(c) What load for HECS and student load purposes should be given to each of the constituent parts or units making up the award course?
0.125

6.1.1 Attributes of graduates

Research Enquiry: An appreciation of the ubiquitous role of chemical and biomolecular engineering in modern technology. An awareness of this technology as a dynamic field with rapid changes taking place on a continual basis.

Information Literacy: An ability to gather, manage, integrate and critique technical information attained from various sources in order to ascertain the relevant information required for the identification, formulation and solution of a problem.

Personal and Intellectual Autonomy: Graduates of this degree will be able to work independently and sustainably, in a way that is informed by openness, curiosity and a desire to meet new challenges.

Ethical, Social and Professional Understanding: An ability to function in, and lead, a multi-disciplinary and multi-cultural team. This is especially important since modern engineering projects transcend disciplinary and national boundaries.

Communication: Graduates of the degree will be able to effectively communicate ideas to both technical and non-technical audiences.

3. **Transitional arrangements** (for continuing students)

Automatic transfer from existing programs available to current students if they so desire.

1.2.10 Course administration

Course to be administered by the following Faculty: Engineering and Information Technologies

(a) Is there **shared teaching** with other Faculties?

Yes ☒ Please see below on provision of additional information.
No ☐

If yes,

Faculty	Percentage of EFTSU
Managing Faculty: EIT	81%
Collaborating Faculties:	-
External partners: Science	19%

(b) Basis for the above allocation between faculties: BE (Chem and Biomolecular) degree has 12CP of Maths and 24 CP of Chemistry (ie 36 CP taught externally)

(c) Combined degree – This stream is available with any of the existing BE Combined degrees.

(d) Is the proposed award course part of a **con-joint venture** with another institution?
Yes ☐ If yes, has the Director Student Centre been consulted? Yes ☐ No ☐
No ☒

1.2.11 Resolutions

(a) Are there changes to the list of Degrees, Diplomas and Certificates conferred by your Faculty, as listed in the **Resolutions of the Senate** available in the University Calendar?
Yes ☒ *If yes, please complete Appendix 2.*
No ☐

(b) Will there be new Resolutions or changes to the existing **Resolutions of the Senate** for the proposed Coursework award course?
Yes ☒ *If yes, please complete Appendix 3.*
No ☐

(c) Will there be new Resolutions or changes to the existing **Faculty Resolutions** for the proposed award course?
Yes ☒ *If yes, please complete Appendix 4.*
No ☐

(d) Will there be changes to the academic dress due to the introduction of the proposed new award course?
Yes ☐ No ☒

10.1.1 Quality assurance arrangements and plans

All quality assurance procedures are already in place in our School.

Section 1 : ACADEMIC BOARD COURSE PROPOSAL

PART 3: Resource Implications

1.3.1 Estimated Student Numbers for next three years of the award course (intake per year)

Estimated Student Demand	2009	2010	2011
Estimated Student Numbers	40	50	60
Estimated EFTSU	40	50	60

1.3.2 Availability of teaching and support staff

(a) Availability of academic and support staff to deliver the proposed award course:

Academic and support staff are already in place for the undergraduate program in our School.

(b) Strengths of the department/school/faculty:

Both the School of Chemical and Biomolecular Engineering and the Faculty of Engineering and Information Technologies are national and international leaders in their respective domains.

1.3.3 Availability of teaching space, and other required facilities

(a) Teaching rooms: *Already in place*
(b) Lecture theatres: *Already in place*
(c) Laboratories (including computer access labs): *Already in place*
(d) Staff offices: *Already in place*
(e) Storage or other space required including any which needs to be rented externally: *Already in place*

1.3.4 Availability of Library Resources

Library holdings should be adequate because the material in most units of study are based on existing units in the School.

1.3.5 Availability of IT and other Equipment

(a) Computer Technology: *Already available*
(b) Other Equipment: *Already available*

1.3.6 Timetabling arrangements

The proposed award course will be offered in the following teaching period:

standard ☒ non-standard teaching ☐
(e.g. Summer School, Winter School)

APPROVALS

Nominated Faculty Officer Dean of Faculty (or Delegate)

SECTION 1 – APPENDIX 2: RESOLUTIONS OF THE SENATE (DEGREES, DIPLOMAS AND CERTIFICATES)

RESOLUTIONS OF THE SENATE (DEGREES, DIPLOMAS AND CERTIFICATES)

Resolutions of the Senate

Degrees, diplomas and certificates in the Faculty of Engineering and Information Technologies

The Resolutions of the Senate relating to degrees, diplomas and certificates in the Faculty of Engineering and Information Technologies (pp.229-230, *Calendar 2008)* are amended, with effect from 1 January 2009, as follows:

DEGREES, DIPLOMAS AND CERTIFICATES IN THE FACULTY OF ENGINEERING and INFORMATION TECHNOLOGIES

1. The degrees in the Faculty of Engineering and Information Technologies shall be:
1.1 Bachelor of Engineering (BE)
1.2 Bachelor of Information Technology (BIT)
1.3 Bachelor of Computer Science and Technology (BCST)
1.4 Bachelor of Computer Science and Technology (Advanced)(BCST(Advanced))
1.5 Master of Engineering (ME)
1.6 Master of Engineering Practice (MEP)
1.7 Master of Environmental Engineering Practice (MEEP)
1.8 Master of Philosophy in Engineering (MPhil)
1.9 Master of Project Management (MPM)
1.10 Master of Information Technology (MInfTech)
1.11 Master of Information Technology Management (MInfTechMan)
1.12 Master of Applied Information Technology (MAppIT)
1.13 Master of Philosophy in Information Technology (MPhil)
1.14 Doctor of Philosophy (PhD)
1.15 Doctor of Engineering (DEng)
1.16 Doctor of Engineering Practice (DEngPrac)

2. The combined degrees in the Faculty of Engineering and Information Technologies shall be:
2.1 Bachelor of Engineering/Bachelor of Arts (BE/BA)
2.2 Bachelor of Engineering/Bachelor of Commerce (BE/BCom)
2.3 Bachelor of Engineering/Bachelor of Laws (BE/LLB)
2.4 Bachelor of Engineering/Bachelor of Medical Science (BE/BMedSc)
2.5 Bachelor of Engineering/Bachelor of Science (BE/BSc) [or Advanced Science or Advanced Mathematics]
2.6 Bachelor of Engineering/Bachelor of Design in Architecture (BE/BDesArch)
2.7 Bachelor of Information Technology/Bachelor of Commerce (BIT/BCom)
2.8 Bachelor of Information Technology/Bachelor of Arts (BIT/BA)
2.9 Bachelor of Information Technology/Bachelor of Science (BIT/BSc)
2.10 Bachelor of Information Technology/Bachelor of Medical Science (BIT/BMedSc)

BACHELOR OF ENGINEERING

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all coursework courses, and the relevant Faculty Resolutions.

2. Specialisations

2.1 The BE degree is awarded in the following specialisations:
2.1.1 *School of Aerospace, Mechanical and Mechatronic Engineering*
2.1.1.1 Aeronautical Engineering
2.1.1.2 Aeronautical Engineering (Space)
2.1.1.3 Mechanical Engineering
2.1.1.4 Mechanical Engineering (Biomedical)
2.1.1.5 Mechanical Engineering (Space)
2.1.1.6 Mechatronic Engineering

2.1.1.7 Mechatronic Engineering (Space)
2.1.2 *School of Chemical and Biomolecular Engineering*
2.1.2.1 Chemical and BiomolecularEngineering
2.1.3 *School of Civil Engineering*
2.1.3.1 Civil Engineering
2.1.3.2 Civil Engineering (Construction Management)
2.1.3.3 Civil Engineering (Environmental)
2.1.3.4 Civil Engineering (Geomechanics)
2.1.3.5 Civil Engineering (Structures)
2.1.3.6 Project Engineering and Management (Civil)
2.1.4 *School of Electrical and Information Engineering*
2.1.4.1 Computer Engineering
2.1.4.2 Electrical Engineering
2.1.4.3 Electrical Engineering (Power Engineering)
2.1.4.4 Software Engineering
2.1.4.5 Telecommunications Engineering

3. Requirements for the degree at pass level

3.1. To qualify for the award of the BE degree at pass level, a student must:
3.1.1 complete successfully units of study giving credit for a total of 192 credit points;
3.1.2 complete the core requirements of an Engineering specialisation as shown in the Faculty Engineering Specialisation Tables; and
3.1.3 satisfy the requirements of all other relevant By-Laws, Rules and Resolutions of the Faculty and the University.

4. Requirements for the degree with honours

4.1 To qualify for the award of the BE degree with honours, a student must:
4.1.1 complete the requirements for the pass degree;
4.1.2 complete the honours requirements published in the Resolutions of the Faculty of Engineering and Information Technologies relating to the BE degree.

BACHELOR OF INFORMATION TECHNOLOGY

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all undergraduate courses, and the relevant Faculty Resolutions.

2. Requirements for the pass degree

2.1 To qualify for the award of the pass degree students must:
2.1.1 complete successfully units of study giving credit for a total of 192 credit points;
2.1.2 complete an IT stream in at least one of the following areas:
2.1.2.1 Computer Science,
2.1.2.2 Information Systems; and
2.1.3 satisfy the requirements of all other relevant By–Laws, Rules and Resolutions of the University.

3. Requirements for the honours degree

3.1 To qualify for the award of the honours degree students must complete the honours requirements published in the Faculty resolutions relating to the course.

BACHELOR OF COMPUTER SCIENCE AND TECHNOLOGY

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all undergraduate courses, and the relevant Faculty Resolutions.

2. Requirements for the pass degree

2.1 To qualify for the award of the pass degree students must:
2.1.1 complete successfully units of study giving credit for a total of 144 credit points; and
2.1.2 complete an IT stream in at least one of the following areas:
2.1.2.1 Computer Science,
2.1.2.2 Information Systems; and
2.1.3 satisfy the requirements of all other relevant By–Laws, Rules and Resolutions of the Faculty and the University.

3. Requirements for the honours degree

3.1 After completing the requirements for a BCST degree or a pass degree from the Faculty of Science or a degree equivalent to the BCST from another institution, students can apply for enrolment in the Honours degree. A successful completion of this course will lead to the award of BCST(Honours)
3.2 The normal duration of the Honours course is 1 year.
3.3 Entry, progression and completion requirements for the BCST(Honours) program are published in the Engineering and Information Technologies Faculty resolutions relating to the course.

BACHELOR OF COMPUTER SCIENCE AND TECHNOLOGY(ADVANCED)

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all undergraduate courses, and the relevant Faculty Resolutions.

2. Requirements for the pass degree

2.1 To qualify for the award of the pass degree students must:
2.1.1 complete successfully units of study giving credit for a total of 144 credit points; and
2.1.2 complete an IT stream in at least one of the following areas:
2.1.2.1 Computer Science,
2.1.2.2 Information Systems; and
2.1.3 maintain an average mark of 65% in units of study for each year of enrolment.
2.1.3.1 students failing to attain this progress requirment will be transferred to the BCST standard degree program.
2.1.4 satisfy the requirements of all other relevant By–Laws, Rules and Resolutions of the Faculty and the University.

3. Requirements for the honours degree

3.1 After completing the requirements for a BCST(Advanced) degree or an advanced degree from the Faculty of Science or a degree equivalent to the BCST(Advanced) from another institution, students can apply for enrolment in the Honours degree. A successful completion of this course will lead to the award of BCST(Advanced)(Honours)
3.2 The normal duration of the Honours course is 1 year.
3.3 Entry, progression and completion requirements for the BCST(Advanced)(Honours) program are published in the Engineering and Information Technologies Faculty resolutions relating to the course.

BACHELOR OF ENGINEERING COMBINED AND DOUBLE DEGREES

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all coursework courses, and the relevant Faculty Resolutions.

2. Combined degrees

2.1 The BE is available in the following combined degree programs.
2.1.1 Bachelor of Engineering/Bachelor of Arts (BE/BA)
2.1.2 Bachelor of Engineering/Bachelor of Commerce (BE/BCom)
2.1.3 Bachelor of Engineering/Bachelor of Laws (BE/LLB)
2.1.4 Bachelor of Engineering/Bachelor of Medical Science (BE/BMedSc)
2.1.5 Bachelor of Engineering/Bachelor of Science (BE/BSc)
2.1.6 Bachelor of Engineering/Bachelor of Design in Architecture (BE/BDesArch)
2.2 The BE is available to be taken in a double degree combination with Bachelor of Science (BE/BSc)

3. Requirements for the degrees at pass level

3.1 To qualify for the award of the degrees at pass level, a student must:
3.1.1 for the BE/BA,BE/BCom,BE/BMedSc, BEDesArch and BE/BSc combined degrees and the BE/BSc double degree, complete successfully units of study giving credit for a total of 240 credit points;
3.1.2 for the BE/LLB combined degree, complete successfully units of study giving credit for a total of 288 credit points.
3.1.3 complete the core requirements of an Engineering specialisation as shown in the Faculty Engineering Specialisation Tables; and
3.1.4 must complete the requirements published in the Resolutions of the Faculty of Engineering and Information Technologies and in the Joint Resolutions of the Faculty of

Engineering and Information Technologies and the Faculties of Arts, Economics and Business, Law, Architecture and Planning or Science, as the case may be, as well as all other relevant By-Laws, Rules and Resolutions of the University.

4. Requirements for the degrees with honours

4.1 To qualify for the award of the BE degree with honours as part of a combined degree, a student must:

4.1.1 complete the requirements for the pass degree;

4.1.2 complete the honours requirements published in the Resolutions of the Faculty of Engineering and Information Technologies relating to the BE combined degrees.

4.2 To qualify for the award of Honours in the partner degree, either BA, Bcom, BDesArch, LLB, BMedSc or BSc, a student must,

4.2.1 complete the requirements pertaining to Honours published in in the Joint Resolutions of the Faculty of Engineering and Information Technologies and the Faculties of Arts, Economics and Business, Law, Architecture, Design and Planning or Science, as the case may be.

BACHELOR OF INFORMATION TECHNOLOGY COMBINED DEGREES

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all coursework courses, and the relevant Faculty Resolutions.

2. Combined degrees

2.1 The BIT is available in the following combined degree programs.

2.1.1 Bachelor of Information Technology/Bachelor of Arts (BE/BA)

2.1.2 Bachelor of Information Technology/Bachelor of Commerce (BE/BCom)

2.1.4 Bachelor of Information Technology/Bachelor of Medical Science (BE/BMedSc)

2.1.5 Bachelor of Information Technology/Bachelor of Science (BE/BSc)

3. Requirements for the degrees at pass level

3.1 To qualify for the award of the degrees at pass level, a student must:

3.1.1 for the BIT/BA, BIT/BCom, BIT/BMedSc and BIT/BSc combined degrees , complete successfully units of study giving credit for a total of 240 credit points;

3.1.2 complete the core requirements of an Information Technology specialisation as shown in the Faculty Engineering and Information Technologies Specialisation Tables; and

3.1.4 must complete the requirements published in the Resolutions of the Faculty of Engineering and Information Technologies and in the Joint Resolutions of the Faculty of Engineering and Information Technologies and the Faculties of Arts, Economics and Business or Science, as the case may be, as well as all other relevant By-Laws, Rules and Resolutions of the University.

4. Requirements for the degrees with honours

4.1 To qualify for the award of the BIT degree with honours as part of a combined degree, a student must:

4.1.1 complete the requirements for the pass degree;

4.1.2 complete the honours requirements published in the Resolutions of the Faculty of Engineering and Information Technologies relating to the BIT combined degrees.

4.2 To qualify for the award of Honours in the partner degree, either BA, Bcom, BMedSc or BSc, a student must

4.2.1 complete the requirements pertaining to Honours published in in the Joint Resolutions of the Faculty of Engineering and Information Technologies and the Faculties of Arts, Economics and Business, or Science, as the case may be.

FACULTY RESOLUTIONS pertaining to the undergraduate degrees of the Faculty of Engineering and Information Technologies.

Chapter 2. Undergraduate Degree Resolutions

This chapter contains the regulations governing undergraduate degrees throughout the University and the regulations governing undergraduate degrees offered by the Faculty of Engineering and Information Technologies.

Resolutions of the Faculty of Engineering and Information Technologies.

These Resolutions must be read in conjunction with the University of Sydney (Coursework) Rule 2000 (as amended) that sets out the requirements for all undergraduate courses, and the Resolutions of the Senate relating to this course.

1. The degrees in the Faculty of Engineering and Information Technologies shall be:

1.1 Bachelor of Engineering (BE) offered in the following specialisations,
1.1.1 in the School of Aerospace, Mechanical and Mechatronic Engineering:
1.1.1.1 Aeronautical Engineering
1.1.1.2 Aeronautical Engineering (Space)
1.1.1.3 Mechanical Engineering
1.1.1.4 Mechanical Engineering (Biomedical)
1.1.1.5 Mechanical Engineering (Space)
1.1.1.6 Mechatronic Engineering
1.1.1.7 Mechatronic Engineering (Space)
1.1.2 in the School of Chemical and Biomolecular Engineering:
~~1.1.2.1 Chemical Engineering~~
1.1.2.1 Chemical and Biomolecular Engineering
1.1.3 in the School of Civil Engineering:
1.1.3.1 Civil Engineering
1.1.3.2 Civil Engineering (Construction Management)
1.1.3.3 Civil Engineering (Environmental)
1.1.3.4 Civil Engineering (Geomechanics)
1.1.3.5 Civil Engineering (Structures)
1.1.3.6 Project Engineering and Management (Civil)
1.1.4 in the School of Electrical and Information Engineering:
1.1.4.1 Computer Engineering
1.1.4.2 Electrical Engineering
1.1.4.3 Electrical Engineering (Power Engineering)
1.1.4.4 Software Engineering
1.1.4.5 Telecommunications Engineering

(all other sections of the 2008 resolutions apply unchanged for this new specialisation).

SECTION 1 – APPENDIX 5: LIBRARY IMPACT STATEMENT

The information contained in this Appendix refers to Section 1 – Part 3: Resource Implications, Item Number 1.3.4 – Availability of Library Resources

In consultation with the University Librarian, explain whether library resources are available to support the proposed award course. If new library resources are required, detail these and give an estimate of the annual cost.

At its meeting on 12 February 1997 the Academic Board agreed to advise faculties that the University Library should be allowed sufficient time to make assessments of proposals for new and major changes to courses and that proposals without the Librarian's statement would not normally be considered.

I have examined the Library needs related to the proposal and certify that existing Library holdings, staffing, services and accommodation are, or will be, adequate/ inadequate to cover the demands that are inherent in it.
(If there are any concerns about library holdings, please address these.)

....
for the University Librarian Date

Further comments:

Holdings:

Services/Staffing:

SECTION 2: FEE REVIEW AND FEE SETTING

Faculty: Engineering and Information Technologies
School presenting the proposal: School of Chemical and Biomolecular Engineering

Faculty Contact person Annette Alexander (Faculty Secretary) Ext. No: 18556

Academic Proponent Associate Professor Tim Langrish
E-mail: T.Langrish@usyd.edu.au

Date course approved by Faculty: To be confirmed

2.1.1. Type of proposal: Amended ☒

2.1.2. Type of course: Undergraduate ☒
Postgraduate Coursework ☐
Postgraduate Research ☐
Other (provide details) ☐

2.1.3. Name of Award course(s)
Name of Amended Award course: Bachelor of Engineering (Chemical and Biomolecular Engineering)

2.1.4 Abbreviated name

BE(Chem and Biomolecular)

2.1.5 Date of introduction or deletion

Introduced: Year 2009 Semester 1

2.1.6 Fee review and Fee-setting

(a) Fees for Undergraduate award course:

Undergraduate award course	Current Fee Band and Fees (per 1 EFTSU per annum)		Proposed Increase (%)		Proposed Fee Band and Fees (per 1 EFTSU per annum)	
	Local students	International students	Local	Int'l	Local students	International students
As for the BE	$23,040	$24,720				

PROPOSED BY:

Nominated Faculty Officer Dean of Faculty (or Delegate) PVC (College)

APPROVAL:

Deputy Vice-Chancellor (Academic & International) / Vice-Chancellor

SECTION 3: COURSE INFORMATION FORM AND MARKETING PLAN

PART 1: COURSE INFORMATION FOR FLEXSIS

Faculty: Engineering and Information Technologies
School presenting the proposal: School of Chemical and Biomolecular Engineering

Faculty Contact person Annette Alexander (Faculty Secretary) Ext. No: 18556

Academic Proponent Associate Professor Tim Langrish
E-mail: T.Langrish@usyd.edu.au

Date course approved by Faculty: To be confirmed

3.1.1. Type of proposal: Amended ☒

3.1.2. Type of course: Undergraduate ☒
Postgraduate Coursework ☐
Postgraduate Research ☐
Other (provide details) ☐

3.1.3. Name of Award course(s)
Name of Amended Award course: Bachelor of Engineering (Chemical and Biomolecular Engineering)

3.1.4 Abbreviated name

BE(Chem and Biomolecular)

3.1.5. Date of introduction or deletion

Introduced: Year 2009 Semester 1

3.1.6 Course Code
511735 (UAC code)

3.1.7 CRICOS Code
000718F

3.1.8 Short degree description (e.g. for the UAC Guide):

Bachelor of Engineering (Chemical and Biomolecular Engineering)

Assumed Knowledge: Mathematics or HSC Mathematics Extension 1. HSC Chemistry is desirable.

Additional selection criteria: If you have considerable experience in chemical engineering or in a related area, you may apply for entry by submitting a portfolio of your work to the School of Chemical and Biomolecular Engineering, as well as submitting a UAC application form. Portfolios will be taken into consideration if you have a UAI slightly below the cut-off. If you submit a portfolio it must be received by 4 January 2009.

For further information or a portfolio entry application form, call the School on (02) 9351 2455 or visit www.chem.eng.usyd.edu.au
This course is also covered by the Faculty's Flexible Entry scheme. Go to http://www.eng.usyd.edu.au/apply/flexibleentry/.shtml for details.

Major studies: Energy, material transformations, sustainability, computing, applied mathematics, process engineering, process design, management, engineering economics,

Honours: Available to meritorious students.

Professional recognition: The BE chemical and biomolecular engineering program is accredited at Masters level by the Institute of Chemical Engineers, as well as by Engineers Australia.

Career opportunities: Examples include careers in mining, commodity chemical manufacturing, financial services, management and technical consulting.

Additional information: The BE(Chem and Biomolecular) program has been developed after extensive consultation with industry to ensure graduates are equipped for the changes demanded in these dynamic areas. This 4-year degree provides students with a structured program of study in chemical and biomolecular engineering.

3.1.9 Full degree description (e.g. for Faculty handbook):
The Bachelor of Engineering (Chemical and Biomolecular Engineering) is a 4-year award course. Students must complete successfully units of study that total at least 192 credit points which include the program of units of study set out in the requirements relating to the Bachelor of Engineering (Chemical and Biomolecular Engineering).

3.1.10 Level of Award:
Higher Doctorate ☐
Doctor of philosophy (PhD) ☐
Doctorate by research and advanced coursework ☐
Masters degree by research ☐
Masters degree by coursework ☐
Graduate Diploma ☐
Graduate Certificate ☐
Bachelor's degree ☒
Advanced Diploma ☐
Associate Diploma ☐
Diploma ☐
Certificate ☐

3.1.11 Is this an Honours course? Yes ☒ No ☐
Honours requirements (if applicable): Same as for BE degree

3.1.12 If the proposal is for a new award course, please indicate if the new course is the result of new resolutions for an existing course? Yes ☒

6.1.1 Name of award that will be conferred upon completion of course: Bachelor of Engineering (Chemical and Biomolecular Engineering)

3.1.14 If the proposal is for a new award course, please indicate which category the proposed course should be allocated to according to the DEST Field of Education and Discipline Area (available from the Courses and Fees Toolkit on the Academic and International website):
DEST Field of Education
DEST Discipline Area 03

3.1.15 Credit points required for the Award: 192cp

3.1.16 Location/ Campus for Student Attendance:
Camperdown & Darlington ☒ Camden ☐ Cumberland ☐
Mallett Street ☐ St James ☐ College of the Arts ☐
Conservatorium ☐ Offshore ☐ please specify
Hospital (please specify)

3.1.17 Are students enrolling in the proposed award course subject to:

Criminal Record Check Yes ☐ No ☒
Prohibited Employment Declaration Yes ☐ No ☒
Health Records & Privacy Information Declaration Yes ☐ No ☒

3.1.18 Prohibitions:
Prohibitions apply at the unit of study level.

3.1.19 Articulation Pathway (if applicable):
Not applicable.

3.1.20 Units of Study offered in proposed award course:

156 Units from Faculty of Engineering and Information Technology and School of Chemical and Biomolecular Engineering

1	ENGG1800, ENGG1801, ENGG1803
1	CHNG1103
2	CHNG2801, CHNG2802, CHNG2803
2	CHNG2804, CHNG2805, CHNG2806
3	CHNG3801, CHNG3802, CHNG3803
3	CHNG3805, CHNG3806, CHNG3807
4	CHNG4801, CHNG4802
4	CHNG4805, CHNG4806
4	Electives (6); 4 of these from SCBE

36 Units from Faculty of Science

1	MATH1001, MATH1002, MATH1003, MATH1005
1	CHEM1101, CHEM1102
2	CHEM2403, CHEM2404

Bachelor of Engineering (Chemical and Biomolecular Engineering)

	UNIT1	UNIT2	UNIT3	UNIT4
Y1;S1	Intro to Eng Disciplines ENGG1800	Engineering Computing ENGG 1801	Differential Calculus & Linear Algebra MATH1001/ 1002	Chemistry 1A CHEM1101
Y1;S2	Intro to Professional Eng ENGG1803	Material & Energy Transformations CHNG1103	Integral Calculus & Statistics MATH1003 /1005	Chemistry 1B CHEM1102
Y2;S1	Conservation and Transport Processes CHNG2801	Applied Maths for Chemical Engineers CHNG2802	Energy and Fluid Systems Practice CHNG2803	Forensic and Environmental Chemistry CHEM2404
Y2;S2	Chemical & Biological Systems Behaviour CHNG2804	Industrial Systems and Sustainability CHNG2805	Materials Purification and Recovery CHNH2806	Chemistry of Biological Molecules CHEM2403
Y3;S1	Process Design CHNG3801	Operating/Improving Industrial Systems CHNG3802	Chemical Biological Process Design CHNG3803	Elective
Y3:S2	Product Formulation and Design CHNG3805	Management of Industrial Systems CHNG3806	Products and Value Chains CHNG3807	Elective
Y4:S1	Thesis A CHNG4801	Design A CHNG4802	Elective	Elective
Y4:S2	Thesis B CHNG4805	Design A CHNG4806	Elective	Elective

SECTION 3 : COURSE INFORMATION FORM AND MARKETING PLAN

PART 2: COURSE INFORMATION FOR UNIVERSITY'S UNDERGRADUATE AND POSTGRADUATE COURSE DATABASE (FOR MARKETING PURPOSES)

3.2.1 UAC Code: 511735

3.2.2 CRICOS Code: 000718F

3.2.3 Career opportunities: Examples include careers in mining, commodity chemical manufacturing, financial services, management and technical consulting.

3.2.4 Areas of study: Energy, material transformations, sustainability, computing, applied mathematics, process engineering, process design, management, engineering economics

3.2.5 Assumed Knowledge: Mathematics or HSC Mathematics Extension 1. HSC Chemistry is desirable.

3.2.6 Minimum education requirements:

Year 12 (senior secondary certificate) or equivalent	☒	Bachelor degree (pass)	☐
		Bachelor (hons)	☐
No minimum education	☐	Graduate certificate	☐
Mature background	☐	Graduate diploma	☐
Relevant employment experience	☐	Master degree	☐

Additional information: Nil

3.2.7 If the proposal is for a Postgraduate award course, please indicate the course method:
Coursework ☐ Coursework with research pathway ☐ Research ☐

3.2.8 UAI (for UG only): 2008 85.20
2007 82.30

3.2.9 Additional admission selection criteria: Nil

3.2.10 If the course is offered to international students please complete the following:
UAI International (for international students only): UAI 85.20 (or equivalent) (UG courses only)
Other international student entry requirements:
Will follow the requirements of the Faculty of Engineering and Information Technologies

3.2.11 If the proposal is for a Postgraduate award course, please indicate the application closing date: Not applicable

3.2.12 Will mid-semester intake be available for:

Commonwealth Supported students	Yes	☐	No	☒
Local fee-paying students	Yes	☐	No	☒
International fee-paying students	Yes	☐	No	☒

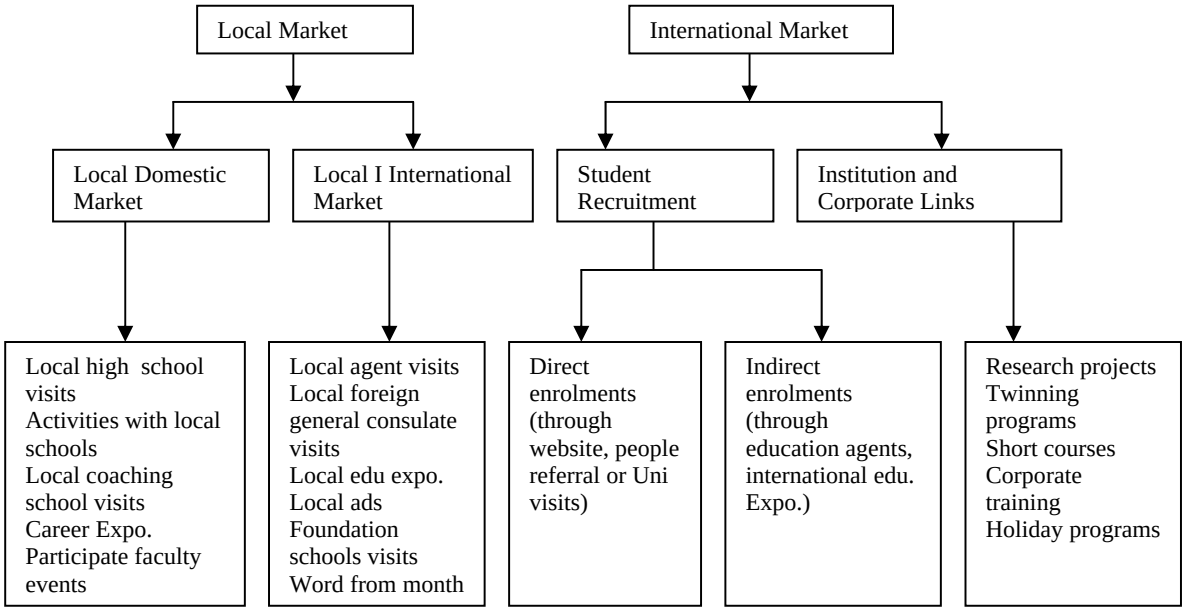
SECTION 3 : COURSE INFORMATION FORM AND MARKETING PLAN

PART 3: MARKETING PLAN

3.3.1 Marketing plan and strategy

The proposed award course will be marketed to prospective students via the UAC Guide, the International Office publications and website, and through student recruitment events targeting high school students conducted by the university, the faculty, and the school, e.g. SydneyUni Live, Information Day, meetings with career advisers and teachers etc.

Outline of marketing activities



APPROVALS

Nominated Faculty Officer Dean of Faculty (or Delegate)

SECTION 4: INTERNATIONAL STUDENT ADMINISTRATION REQUIREMENTS

Please complete the following if you intend that the proposed new award course will be made available to international students studying onshore on a Student Visa. The following additional information is required to allow registration on the DEST Commonwealth Register of Institutions and Courses for Overseas Students (CRICOS), system set-up and application processing.

Faculty: Engineering and Information Technologies
School presenting the proposal: School of Chemical and Biomolecular Engineering

Faculty Contact person Annette Alexander (Faculty Secretary) Ext. No: 18556

Academic Proponent Associate Professor Tim Langrish
E-mail: T.Langrish@usyd.edu.au

Date course approved by Faculty: To be confirmed

4.1.1. Type of proposal: Amended ☒

4.1.2. Type of course: Undergraduate ☒
Postgraduate Coursework ☐
Postgraduate Research ☐
Other (provide details) ☐

4.1.3. Name of Award course(s)
Name of Amended Award course: Bachelor of Engineering (Chemical and Biomolecular Engineering)

4.1.4 Abbreviated name

BE (Chem and Biomolecular)

4.1.5. Date of introduction or deletion

Introduced: Year 2009 Semester 1

4.1.6 Course Code
Course Code of Existing Award Course for amendment or deletion: 511735 (UAC code)

4.1.7 CRICOS Code
CRICOS Code of Existing Award Course for amendment or deletion: 000718F

4.1.8 Marketing plan and strategy

The proposed award course will be marketed to prospective students via the UAC Guide, the International Office publications and website, and through student recruitment events targeting high school students conducted by the university, the faculty, and the school, e.g. SydneyUni Live, Information Day, meetings with career advisers and teachers etc.

4.1.9 Availability of Course

Will international students be able to enrol full-time?

Yes ☒ No ☐

4.1.10 Mode of Study

Will international students be able to study the proposed course in "face-to-face" mode for at least 75% of the time each semester?

Yes ☒ No ☐

4.1.11 Incidental (Ancillary) Fees

Will the proposed course incur any compulsory costs other than tuition fees and compulsory subscriptions?

Yes ☒ Students are required to purchase course notes and text books where required. Additional cost is estimated at $80-100 per year of candidature.

4.1.10 Commencement Semester

Indicate whether entry to the course is possible in each semester.

SEM1 ONLY ☐ SEM1or 2 ☒ SEM2 ONLY ☐

If entry is permissible in Semester 2, please indicate whether subject choice will be restricted and whether the duration of the course will necessarily increase?

4.1.11 English Language Requirements

Will the minimum English language requirement for the proposed course differ from the usual requirements (i.e. overall IELTS score of 6.5 with a minimum of 6.0 in each band)?

Yes ☐ If yes please indicate IELTS equivalent

No ☒

APPROVALS

……

Dean or delegate

The Proposed Course is suitable for CRICOS registration and International Office processing.

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Director International Office

SECTION 5: PLANNING SUPPORT OFFICE

Faculty: Engineering and Information Technologies
School presenting the proposal: School of Chemical and Biomolecular Engineering

Faculty Contact person and/or: Ext. No: x14568
Academic Proponent Associate Professor Tim Langrish
E-mail: T.Langrish@usyd.edu.au

Date course approved by Faculty: To be confirmed

5.1.1. Type of proposal: Amended ☒

5.1.2. Type of course: Undergraduate ☒
Postgraduate Coursework ☐
Postgraduate Research ☐
Other (provide details) ☐

5.1.3. Name of Award course(s)
Name of Amended Award course: Bachelor of Engineering (Chemical and Biomolecular Engineering)

5.1.4 Abbreviated name

BE (Chem and Biomolecular)

5.1.5. Date of introduction or deletion

Introduced: Year 2009 Semester 1

5.1.6 Estimated percentage distribution of load across departments in one or more faculties:

Faculty	Department	Estimated percentage of load
Engineering and IT	Various (primarily SCBE)	81%
Science	Various	19%

5.1.7 Number of semesters required to complete the course in minimum time 8

5.1.8 Estimated Student Enrolments (i.e. Head Count)
Estimated student numbers for the next three years of the award course (intake per year):

Estimated Student Enrolments		2009	2010	2011
Commonwealth-supported	Full-time	25	35	35
	Part-time			
Local fee-paying	Full-time	5	5	10
	Part-time			
International fee-paying	Full-time	10	10	15
	Part-time			
Total Student Enrolments		40	50	60

5.1.9 For undergraduate degrees only, please indicate the expected 'carry-on' rate from one academic year to the next. 95%
e.g. the number of students in first year in year 'n' expected to re-enrol in second year in year 'n+1.

5.1.10 IMPORTANT The University operates within a fixed target for Commonwealth Supported load. Any new course proposals which include intakes of Commonwealth Supported (HECS) students must be accompanied by an indication of a corresponding reduction in the HECS intake to another degree of similar duration offered within the same Faculty.
Details of proposed reduction: To be advised

APPROVALS

Nominated Faculty Officer Dean of Faculty or delegate

Attachment - Report on meeting with industrial representatives

The proposal was discussed at the 12 Feb 2008 Meeting of the Executive of the Chemical and Biomolecular Engineering Foundation (Agenda item no. 6), held in the Chemical Engineering Building.

The Foundation Officer, Mr Skender Bregu, reports that there was support for the proposal from the Foundation Executive members, comprising of representatives from many key industries in the field.

Attachment - Report on meeting with student focus group

Notes from Staff Student Focus Meeting

Location :
Meeting room
School of Chemical and Biomolecular Engineering
The University of Sydney

Date: 10 October, 2007

Present:

Students
Ms Dong Jia Hua (1st year student)
Ms Georgina North (1st year student)
Ms Elizabeth Dowsett (2nd year student)
Mr Warren Oakes (2nd year student)
Ms Natasha Legge-Wilkinson (2nd year student)
Mr Steven Lin (3rd year student)
Mr Anthony Ebert (3rd year student)
Ms Mamata Titus (4th year student)
Ms Tanzila Shahreen (4th year student)
Mr John Nowakoski (4th year student)

Staff
A/Prof Geoff Barton (Head of School)
A/Prof Vincent Gomes (chair)
A/Prof Howard See

The proposed degree of Bachelor of Engineering (Chemical and Biomolecular Engineering) was discussed with these representatives of the student body. The students agreed that there was an increased need for graduate engineers with some experience in bio-related fields. Overall, there was qualified support for the proposed program. The students pointed out that courses on the Biomolecular Engineering segment within the School may need further support and strengthening.

Attachment - Report on survey results – students

Surveys conducted by Ms Aileen Wang
(School of School of Chemical and Biomolecular Engineering)

Survey of 1st year undergraduate students
(October 2007)

36 student responses received

Question : What made you decide to choose Chemical and Biomolecular Engineering?

Future career opportunities	47%
The curriculum	7%
Facilities	2%
The quality of teaching	4%
Resources availability	5%
The reputation of the university of Sydney	16%
The reputation of the School	7%
Other (family members helped to make decision)	12%

Question : Biomolecular Engineering (bio-engineering and molecular/nano-level engineering) plays an important role in today's technology. Do you have an interest in this field? Please explain your answer

Do you have an interest? YES – 69% NO – 31%

Comments from students:

14. *Bioengineering, we create innovative technologies,*
15. *sounds alright, don't know about it,*
16. *broad general interest in the topic*
17. *in the culture of bacteria and production of suitable chemicals, upcoming industry with available jobs.*
18. *Nano technologies are fascinating, and their potential in medicine, computing and other fields make them worth investigating,*
19. *Biomolecular engineering dominates the main technology field in medicine and biotech, they also have good career opportunities when graduating,*
20. *to know more about DNA, because it is interesting, medicine,*
21. *nano engineering-its so cute! I'd like to study "neutrations", it incorporates two of my utter most favourite things and its a booming industry,*
22. *no not interested in human anatomy, thought about doing it initially but then decided on chemical engineering,*
23. *there is an interest, however I do not know enough about this field to know if I really want to do it.*

==========

Survey of 2nd , 3rd and 4th year undergraduate students
(October 2007)

48 student responses received

Question : What made you decide to choose Chemical and Biomolecular Engineering?

Future career opportunities	43%
The curriculum	7%
Facilities	3%
The quality of teaching	3%
Resources availability	4%
The reputation of the university of Sydney	30%
The reputation of the School	4%
Other (family members helped to make decision)	6%

Question : Biomolecular Engineering (bio-engineering and molecular/nano-level engineering) plays an important role in today's technology. Do you have an interest in this field? Please explain your answer

Do you have an interest?

YES	- 47%
SOME INTEREST	- 16%
NO	- 33%
(no response	- 14%)

Comments from students:

1 The name sounded interesting, but don't have too much of an idea about this field
2)Yes, however my knowledge of the field is limited, what we were taught also seems so unstructured, increasing benefits in various applications,
3)I believe that nanotechnology will lead many developments in the future,
4) Interested in bio engineer field, the stuff in relation to biomolecular engineering is interesting and useful as well
5)my interests are more in mining and oil,
6)Interested in water tech and hydrocarbon processing, immense future and potential,
7) interested in pharmaceutical applications of molecular engineering,
8)in medical applications and industrial scale up of medical technology, fermentation, trying to control biological processing is challenging and fun,
9)interested in ecologically sustainable developments and these fields seem important toward achieving that aim, interested in biotechnology and biological processes.
10) interesting to be involved in, not really like dealing with vessels,

Attachment - Report on survey results – industrial representatives

A hardcopy attachment is available from the faculty office upon request).

10.3.3
SECTION 1: ACADEMIC BOARD COURSE PROPOSAL

PART 1: OVERVIEW OF PROPOSAL

Faculty: Faculty of Engineering and Information Technologies
Faculty of Architecture, Design and Planning

Department/School presenting the proposal: School of Civil Engineering

Faculty Contact person and/or: Annette Alexander (EIT) **Ext. No:** 18556
Martin Hesse (ADP) **Ext. No:** 15923

Academic Proponent (E) Professor Kim Rasmussen **Email:** K.Rasmussen@civil.usyd.edu.au
(A) Professor Tom Heneghan **Email:** heneghan@arch.usyd.edu.au

Date course approved by Faculty: Engineering and Information Technologies
Date course approved by Faculty: Architecture, Design and Planning

1.1.1. Type of proposal: New ✓
Amended ☐ *Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.*
Deletion ☐ *For deletion of a course please complete Part 1, and Part 2 items 1.2.1, 1.2.2, 1.2.9 and 1.2.11.*

1.1.2. Type of course:
Undergraduate ✓
Postgraduate coursework ☐
Postgraduate research ☐
Other (provide details) ☐

1.1.3. Name of award course(s)

Name of **new** award course/s:
Bachelor of Engineering/Bachelor of Design in Architecture

1.1.4. Abbreviated name

BE/BDesArch

1.1.5. Date of introduction or deletion

Introduced: Year 2009 Semester 1

1.1.6 Availability to students

Commonwealth supported students	✓	Full-time	✓
		Part-time	☐
Fee-paying local students	✓	Full-time	✓
		Part-time	☐
Fee-paying international students	✓	Full-time	✓
		Part-time	☐

Research Training Scheme ☐ (PG Research students only)

PART 2: DETAILS FOR ASSESSMENT OF PROPOSAL

1.2.1 Purpose of the proposal

The purpose of this proposal is to create the combined degree of Bachelor of Engineering and Bachelor of Design in Architecture. The course is designed to meet the growing need in industry for graduates who master both the engineering and architecture disciplines, and to allow students who are interested in the technical and artistic aspects of engineering and architecture design the opportunity to study both degrees simultaneously and graduate with skills which would make them an asset to the structural design and architecture professions.

1.2.2 Justification for proposal

This proposal will offer an effective route for students to combine two existing types of education: a deep and broad coverage of the underlying technical aspects of engineering, with a deep and broad coverage of the underlying technical and artistic aspects of architecture and design, which is currently not available. At present, graduates enrol in postgraduate level degrees in either Architecture or Engineering to gain the cross-over of knowledge required in industry.

The BE is a four year degree which prepares graduates professionally and technically by exposing them to core topics on programming, computer modelling and designing, mathematics, structural and fluids mechanics, engineering construction, surveying, project management and structure design. Students study 60 credit points of 3000 and 4000 level engineering units of study, with a 12 credit point thesis included. The BDesArch is a three year degree which prepares graduates for the accredited Master of Architecture, the degree required to register as an Architect. The BDesArch provides students with a broad range of knowledge and practice in design. The proposed BE/BDesArch will allow students to achieve the outcomes of both degrees in only 5 years of study.

Numerous Universities offer engineering degrees with specialty in architecture, including the University of Bath, University of Sheffield, University of Southampton, University of Leeds, University of Edinburgh and Cardiff University. This year, Architectural Engineering was offered as a new degree at the University of NSW. In 2003, Architectural Engineering was introduced at the Technical University of Denmark expecting an influx of 20 students annually. The influx has now grown to 60 students annually. There is thus a need and precedence for degrees combining Engineering and Architecture.

The proposed BE/BDesArch has the potential to attract the high end of the student cohort and so fits the University's L&T strategic objective of "attracting highest quality students". It also relates strongly to the University's strategic objective to "develop and refine the Sydney "choices" model to achieve greater coherence, provide choice while maintaining flexibility, and ensure continuing relevance of our courses to students and employers through the development of generic skills relevant to the workplace and to provide a pathway to research higher degrees through research-led teaching."

The proposed BE/BDesArch fills a role for students wishing to master both the technical and design aspects of structural engineering, specifically combining safety, technology and aesthetics. The closest a student can come to achieving these skills is to take electives available in the BDesArch as part of their elective cohort in the BE, or vice-versa. This however, is limited to a maximum of 12 credit points in the BE, and 18 credit points in the BDesArch.

The proposed degree will produce graduates who can meet a strong need from industry; for employees who have both extensive technical and design understanding will have a broad understanding of the issues that impact on engineering and architecture design outcomes. These graduates will be ideally placed for careers leading into roles such as engineering consultants to architecture firms. The proposed combined degree has been presented to an industry panel of architects and engineers which endorsed the degree.

This proposal will fill an important gap in the suite of combined degrees offered, and it will require only a minimum (two) of additional units of study to be delivered.

1.2.3 Benchmarking, market research and analysis

1.2.3.1 Benchmarking:

The proposal is necessary to keep up with competition from other institutions, both in Australia and internationally, who have created degrees in Architecture Engineering. Several universities, including UNSW, have a single degree of Bachelor of Design Engineering or Engineering Architecture, but no other university offers a combined degree in engineering and architecture. The proposed BE/BDesArch is distinct from these engineering degrees by providing pathways to both the engineering and architecture professions. It will be marketed as such and has the potential to attract the high end of the student cohort.

After consultation with members of the engineering and architect professions, it was clear that a combined degree in Engineering and Architecture would enhance the learning outcomes of students who were both technically and artistically minded.

1.2.3.2 Market research and analysis:

1.2.3.3 Summary table of competitive offerings to proposed award course:

Institute	Competitive offering	Additional information
UNSW	Bachelor of Engineering and Architecture (4yrs)	Commenced in 2007
University of Bath	Civil and Architectural Engineering (4yrs)	
Queen's University of Belfast	Structural Engineering with Architecture (4yrs)	
Cardiff University	Architectural Engineering (4yrs)	
City University (London)	Civil Engineering with Architecture (4yrs)	
University of Leads	Architectural Engineering (4yrs)	
University of Manchester	Structural Engineering with Architecture (4yrs)	
University of Plymouth	Civil engineering with Architecture (4yrs)	
Heriot-Watt University (Edinburgh)	Structural engineering with Architectural Design (5yrs)	MEng
University of Glasgow	Civil Engineering with Architecture (5yrs)	MEng
Technical University of Denmark	Bachelor of Architectural Engineering (3yrs)	A Master has been proposed at 3+2 model

1.2.3.4 Estimated student demand

Estimated student demand	2009	2010	2011
Commonwealth-supported	10	15	20
Local fee-paying	0		
International fee-paying	5	5	5
Estimated Total EFTSU	15	20	25
Lowest EFTSU for which course would be run	5	5	5

Estimated full-time and part-time Students	2009	2010	2011
Estimated number of Full-time students	100%	100%	100%
Estimated number of Part-time students			

Impact on students currently enrolled: The proposed course may impact on students currently enrolled in the BE as they may be eligible to transfer to the combined degree. Similarly, students enrolled in BDesArch may become eligible to transfer to the combined degree.

Enrolment Quotas:
Will quotas be set for the proposed award course or for any units of study within the award course?

For local fee-paying students
Yes ☐ No ✓

For international fee-paying students
Yes ☐ **No** ✓

1.2.4 Consultation and external references

Consultees	Date of consultation	Method of consultation	Type of supporting evidence provided
Harry Partridge, Partridge Partners	1 November 2007	Focus Group	
Robert Herbertson, WellStructured Consulting Engineers	1 November 2007	Focus Group	
Paul Berkemeier, Paul Berkemeier Architects Pty Ltd Inc	1 November 2007	Focus Group	
Tristram Carfrae, Arup Consulting Engineers	22 June 2007	email	

The panel supported the course proposal, including the combination of units of study from engineering and architecture. The following comments were made:

7 "The combined degree removes current constraints on engineering and architecture graduates"
8 "There is a market on both sides [engineering and architecture]"
9 "[The degree] provides sought-after cross-pollination of architecture and civil engineering"
10 "Some architecture students enjoy the computational aspects of architecture [and will be attracted by the combined degree]"
11 "The sequence [of units of study] is right"
12 "The combined degree is a particularly strong combination for a structural engineering graduate"
13 "[The degree] will provide more balanced graduates"
14 "[The degree] will heal the damage done to the appreciation of aesthetics"
15 "Engineering is driven by cost and safety; the combined degree will accentuate the much needed driver of aesthetics"
16 "[The degree] offers an opportunity to promote environmental engineering and sustainability"
17 "I applaud the University for stepping in this direction"

1.2.5 Course structure

1.2.5.1

Award course	Length of candidature	Type of enrolment

	(years)	Full-time	Part-time
Bachelor of Engineering / Bachelor of Design in Architecture	Minimum 5	✓	
	Maximum 10		

1.2.5.2 Minimum credit points required for completion of qualification: 240 credit points.

1.2.5.3 Mode of delivery: Face-to-face teaching ✓

Distance education ☐ Offshore delivery ☐

This is a combined degree: the individual degrees are delivered face to face.

1.2.5.4 Does the course involve clinical or industrial placement/experience?

Yes ✓ No ☐

If Yes, please provide details

All BE students must enrol in Practical Experience, which involves 12 weeks of industry-based work experience between their penultimate and final year.

1.2.5.5 Please indicate what processes are in place to guarantee the quality of academic staffing, available resources for teaching and provision of adequate curriculum delivery, assessment and authentication of student work.

Students will take existing units and combine existing awards for which processes are already in place.

1.2.6 Assessment procedures

Proposed assessment regime	Proportion of assessment regime (%)	Use of external assessors/examiners (Yes/No) (if yes, please provide details)
The assessment regime will use the existing assessment regime of the individual awards of BE and BDesArch		

1.2.7 Student workload

1.2.7.1

Expected workload	Total time expected (per credit point)
Lectures	½
Tutorials	½
Practical experience	
Independent study	½
Reading and work for assessment	½
Others (please specify):	

1.2.7.2 Provide an indication of how the academic course load including the weight given to any dissertation component compare with other similar course loads in the faculty/college/university

Similar to BE requirement

1.2.7.3 What load for HECS and student load purposes should be given to each of the constituent parts or units making up the award course?

0.125 for BE and most BDesArch units

0.250 for BDesArch studios

1.2.8 Attributes of graduates

Research and inquiry

An appreciation of the combined roles of architects and engineers in structural design in the modern world. The ability to apply and contextualise a deep understanding of design in both the architecture and engineering disciplines and to span across the two disciplines.

Information literacy
An ability to gather, manage, integrate and critique information attained from various sources in order to ascertain the relevant information required for the identification, formulation and solution of a problem. Possess a deep understanding and appreciation of the history and evolution of architectural design.

Personal and intellectual autonomy
Graduates of the combined degree will be able to work as strong team members, in a way that is informed by openness, curiosity and a desire to meet new challenges; and in an environment that will combine the disciplines of engineering and architecture.

Ethical, social and professional understanding
Graduates will possess an ability to function in, and lead, a multi-disciplinary and multi-cultural team. They will have a strong appreciation of aesthetics and ability to promote aesthetically pleasing and sustainable design in engineering and architecture.

Communication
Graduates of the combined degree will be able to effectively communicate ideas in both engineering and architecture domains. They will learn how to serve as conduits to bridge the gap between the two domains.

1.2.9 Transitional arrangements (for continuing students)

This is not applicable, but transfer from existing programs is available to eligible students.

1.2.10 Course administration

Course to be administered by the following Faculty: Faculty of Engineering and Information Technologies

1.2.10.1 Is there **shared teaching** with other Faculties?

Yes ☒ Please see below on provision of additional information.
No ☐

If yes,

Faculty	Percentage of EFTSU
Managing Faculty: EIT	50%
Collaborating faculties: Architecture, Design and Planning	40%
External partners: Science	10%

1.2.10.2 Basis for the above allocation between faculties: Combined degree: 124 credit points in Engineering; 96 credit points in Architecture, Design and Planning; 12 credit points in Mathematics and 6 credit points in Geology.

1.2.10.3 Combined degree – inter-faculty arrangements: Consultation between the Faculties of EIT and ADP has taken place and will continue on an on-going basis.
Head of School, Civil Engineering – Professor Kim Rassmussen
Program Coordinator BDesArch – Professor Tom Heneghan
Student Administration Manager (ADP) – Mr Martin Hesse
Student Administration (EIT) – Ms Annamaria Brancato
Faculty Secretary (EIT) – Ms Annette Alexander

1.2.10.4 Is the proposed award course part of a **con-joint venture** with another institution?

Yes ☐ No ☒

If yes, has the Director Student Centre been consulted?

Yes ☐ No ☐

1.2.11 Resolutions

1.2.11.1 Are there changes to the list of Degrees, Diplomas and Certificates conferred by your Faculty, as listed in the **Resolutions of the Senate** available in the University Calendar?

Yes ☒ *If yes, please complete Appendix 2.*

No ☐

1.2.11.2 Will there be new Resolutions or changes to the existing **Resolutions of the Senate** for the proposed Coursework award course?

Yes ☒ *If yes, please complete Appendix 3.*

No ☐

1.2.11.3 Will there be new Resolutions or changes to the existing **Faculty Resolutions** for the proposed award course?

Yes ☒ *If yes, please complete Appendix 4.*

No ☐

1.2.11.4 Will there be changes to the academic dress due to the introduction of the proposed new award course?

Yes ☐ No ☒

1.2.12 Quality assurance arrangements and plans

Since this is a combined degree all quality assurance procedures are already in place from the existing constituent degrees.

SECTION 1 : ACADEMIC BOARD COURSE PROPOSAL

PART 3: RESOURCE IMPLICATIONS

1.3.1 Estimated Student Numbers for next three years of the award course

Estimated Student Demand	2009	2010	2011
Estimated Student Numbers	15	20	25
Estimated EFTSU (EIT)	9	12	15
Estimated EFTSU (ADP)	6	8	10

1.3.2 Availability of teaching and support staff

1.3.2.1 Availability of academic and support staff to deliver the proposed award course:

Since this combines two awards, academic and support staff is already in place for the constituent awards.

1.3.2.2 Strengths of the department/school/faculty:

Both the School of Civil Engineering and the Faculty of Architecture, Design and Planning are national and international leaders in their respective domains.

1.3.3 Availability of teaching space, and other required facilities

1.3.3.1 Teaching rooms: Already in place

1.3.3.2 Lecture theatres: Already in place

1.3.3.3 Laboratories (including computer access labs): Already in place

1.3.3.4 Staff offices: Already in place

1.3.3.5 Storage or other space required including any which needs to be rented externally: Already in place

1.3.4 Availability of Library Resources

Library holdings are adequate because all units of study are existing units.

1.3.5 Availability of IT and other Equipment

1.3.5.1 Computer Technology: Already available

1.3.5.2 Other Equipment: Already available

1.3.6 Timetabling arrangements

The proposed award course will be offered in the following teaching period:

standard ☒ non-standard teaching ☐
(e.g. Summer School, Winter School)

APPROVALS

Nominated Faculty Officer **Dean of Faculty (or Delegate)**

RESOLUTIONS OF THE SENATE (DEGREES, DIPLOMAS AND CERTIFICATES)

Resolutions of the Senate
Degrees, diplomas and certificates in the Faculty of Engineering and Information Technologies

The Resolutions of the Senate relating to degrees, diplomas and certificates in the Faculty of Engineering and Information Technologies (pp.229-230, *Calendar 2008)* are amended, with effect from 1 January 2009, as follows:

DEGREES, DIPLOMAS AND CERTIFICATES IN THE FACULTY OF ENGINEERING and INFORMATION TECHNOLOGIES

1. The degrees in the Faculty of Engineering and Information Technologies shall be:
1.1 Bachelor of Engineering (BE)
1.2 Bachelor of Information Technology (BIT)
1.3 Bachelor of Computer Science and Technology (BCST)
1.4 Bachelor of Computer Science and Technology (Advanced)(BCST(Advanced))
1.5 Master of Engineering (ME)
1.6 Master of Engineering Practice (MEP)
1.7 Master of Environmental Engineering Practice (MEEP)
1.8 Master of Philosophy in Engineering (MPhil)
1.9 Master of Project Management (MPM)
1.10 Master of Information Technology (MInfTech)
1.11 Master of Information Technology Management (MInfTechMan)
1.12 Master of Applied Information Technology (MAppIT)
1.13 Master of Philosophy in Information Technology (MPhil)
1.14 Doctor of Philosophy (PhD)
1.15 Doctor of Engineering (DEng)
1.16 Doctor of Engineering Practice (DEngPrac)

2. The combined degrees in the Faculty of Engineering and Information Technologies shall be:
2.1 Bachelor of Engineering/Bachelor of Arts (BE/BA)
2.2 Bachelor of Engineering/Bachelor of Commerce (BE/BCom)
2.3 Bachelor of Engineering/Bachelor of Laws (BE/LLB)
2.4 Bachelor of Engineering/Bachelor of Medical Science (BE/BMedSc)
2.5 Bachelor of Engineering/Bachelor of Science (BE/BSc) [or Advanced Science or Advanced Mathematics]
2.6 Bachelor of Engineering/Bachelor of Design in Architecture (BE/BDesArch)
2.7 Bachelor of Information Technology/Bachelor of Commerce (BIT/BCom)
2.8 Bachelor of Information Technology/Bachelor of Arts (BIT/BA)
2.9 Bachelor of Information Technology/Bachelor of Science (BIT/BSc)
2.10 Bachelor of Information Technology/Bachelor of Medical Science (BIT/BMedSc)

BACHELOR OF ENGINEERING
1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all coursework courses, and the relevant Faculty Resolutions.

2. Specialisations
2.1 The BE degree is awarded in the following specialisations:

2.1.1 *School of Aerospace, Mechanical and Mechatronic Engineering*
2.1.1.1 Aeronautical Engineering
2.1.1.2 Aeronautical Engineering (Space)
2.1.1.3 Mechanical Engineering
2.1.1.4 Mechanical Engineering (Biomedical)
2.1.1.5 Mechanical Engineering (Space)
2.1.1.6 Mechatronic Engineering
2.1.1.7 Mechatronic Engineering (Space)
2.1.2 *School of Chemical and Biomolecular Engineering*
2.1.2.1 Chemical and BiomolecularEngineering
2.1.3 *School of Civil Engineering*
2.1.3.1 Civil Engineering
2.1.3.2 Civil Engineering (Construction Management)
2.1.3.3 Civil Engineering (Environmental)
2.1.3.4 Civil Engineering (Geomechanics)
2.1.3.5 Civil Engineering (Structures)
2.1.3.6 Project Engineering and Management (Civil)
2.1.4 *School of Electrical and Information Engineering*
2.1.4.1 Computer Engineering
2.1.4.2 Electrical Engineering
2.1.4.3 Electrical Engineering (Power Engineering)
2.1.4.4 Software Engineering
2.1.4.5 Telecommunications Engineering

3. Requirements for the degree at pass level

3.1. To qualify for the award of the BE degree at pass level, a student must:
3.1.1 complete successfully units of study giving credit for a total of 192 credit points;
3.1.2 complete the core requirements of an Engineering specialisation as shown in the Faculty Engineering Specialisation Tables; and
3.1.3 satisfy the requirements of all other relevant By-Laws, Rules and Resolutions of the Faculty and the University.

4. Requirements for the degree with honours

4.1 To qualify for the award of the BE degree with honours, a student must:
4.1.1 complete the requirements for the pass degree;
4.1.2 complete the honours requirements published in the Resolutions of the Faculty of Engineering and Information Technologies relating to the BE degree.

BACHELOR OF INFORMATION TECHNOLOGY

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all undergraduate courses, and the relevant Faculty Resolutions.

2. Requirements for the pass degree

2.1 To qualify for the award of the pass degree students must:
2.1.1 complete successfully units of study giving credit for a total of 192 credit points;
2.1.2 complete an IT stream in at least one of the following areas:
2.1.2.1 Computer Science,
2.1.2.2 Information Systems; and
2.1.3 satisfy the requirements of all other relevant By–Laws, Rules and Resolutions of the University.

3. Requirements for the honours degree

3.1 To qualify for the award of the honours degree students must complete the honours requirements published in the Faculty resolutions relating to the course.

BACHELOR OF COMPUTER SCIENCE AND TECHNOLOGY

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all undergraduate courses, and the relevant Faculty Resolutions.

2. Requirements for the pass degree

2.1 To qualify for the award of the pass degree students must:
2.1.1 complete successfully units of study giving credit for a total of 144 credit points; and
2.1.2 complete an IT stream in at least one of the following areas:
2.1.2.1 Computer Science,
2.1.2.2 Information Systems; and
2.1.3 satisfy the requirements of all other relevant By–Laws, Rules and Resolutions of the Faculty and the University.

3. Requirements for the honours degree

3.1 After completing the requirements for a BCST degree or a pass degree from the Faculty of Science or a degree equivalent to the BCST from another institution, students can apply for enrolment in the Honours degree. A successful completion of this course will lead to the award of BCST(Honours)
3.2 The normal duration of the Honours course is 1 year.
3.3 Entry, progression and completion requirements for the BCST(Honours) program are published in the Engineering and Information Technologies Faculty resolutions relating to the course.

BACHELOR OF COMPUTER SCIENCE AND TECHNOLOGY(ADVANCED)

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all undergraduate courses, and the relevant Faculty Resolutions.

2. Requirements for the pass degree

2.1 To qualify for the award of the pass degree students must:
2.1.1 complete successfully units of study giving credit for a total of 144 credit points; and
2.1.2 complete an IT stream in at least one of the following areas:
2.1.2.1 Computer Science,
2.1.2.2 Information Systems; and
2.1.3 maintain an average mark of 65% in units of study for each year of enrolment.
2.1.3.1 students failing to attain this progress requirment will be transferred to the BCST standard degree program.
2.1.4 satisfy the requirements of all other relevant By–Laws, Rules and Resolutions of the Faculty and the University.

3. Requirements for the honours degree

3.1 After completing the requirements for a BCST(Advanced) degree or an advanced degree from the Faculty of Science or a degree equivalent to the BCST(Advanced) from another institution, students can apply for enrolment in the Honours degree. A successful completion of this course will lead to the award of BCST(Advanced)(Honours)
3.2 The normal duration of the Honours course is 1 year.
3.3 Entry, progression and completion requirements for the BCST(Advanced)(Honours) program are published in the Engineering and Information Technologies Faculty resolutions relating to the course.

BACHELOR OF ENGINEERING COMBINED AND DOUBLE DEGREES

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all coursework courses, and the relevant Faculty Resolutions.

2. Combined degrees

2.1 The BE is available in the following combined degree programs.
2.1.1 Bachelor of Engineering/Bachelor of Arts (BE/BA)
2.1.2 Bachelor of Engineering/Bachelor of Commerce (BE/BCom)
2.1.3 Bachelor of Engineering/Bachelor of Laws (BE/LLB)
2.1.4 Bachelor of Engineering/Bachelor of Medical Science (BE/BMedSc)
2.1.5 Bachelor of Engineering/Bachelor of Science (BE/BSc)
2.1.6 Bachelor of Engineering/Bachelor of Design in Architecture (BE/BDesArch)
2.2 The BE is available to be taken in a double degree combination with Bachelor of Science (BE/BSc)

3. Requirements for the degrees at pass level

3.1 To qualify for the award of the degrees at pass level, a student must:

3.1.1 for the BE/BA,BE/BCom,BE/BMedSc, BEDesArch and BE/BSc combined degrees and the BE/BSc double degree, complete successfully units of study giving credit for a total of 240 credit points;

3.1.2 for the BE/LLB combined degree, complete successfully units of study giving credit for a total of 288 credit points.

3.1.3 complete the core requirements of an Engineering specialisation as shown in the Faculty Engineering Specialisation Tables; and

3.1.4 must complete the requirements published in the Resolutions of the Faculty of Engineering and Information Technologies and in the Joint Resolutions of the Faculty of Engineering and Information Technologies and the Faculties of Arts, Economics and Business, Law, Architecture and Planning or Science, as the case may be, as well as all other relevant By-Laws, Rules and Resolutions of the University.

4. Requirements for the degrees with honours

4.1 To qualify for the award of the BE degree with honours as part of a combined degree, a student must:

4.1.1 complete the requirements for the pass degree;

4.1.2 complete the honours requirements published in the Resolutions of the Faculty of Engineering and Information Technologies relating to the BE combined degrees.

4.2 To qualify for the award of Honours in the partner degree, either BA, Bcom, BDesArch, LLB, BMedSc or BSc, a student must

4.2.1 must complete the requirements pertaining to Honours published in in the Joint Resolutions of the Faculty of Engineering and Information Technologies and the Faculties of Arts, Economics and Business, Law, Architecture and Planning or Science, as the case may be.

BACHELOR OF INFORMATION TECHNOLOGY COMBINED DEGREES

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all coursework courses, and the relevant Faculty Resolutions.

2. Combined degrees

2.1 The BIT is available in the following combined degree programs.

2.1.1 Bachelor of Information Technology/Bachelor of Arts (BE/BA)

2.1.2 Bachelor of Information Technology/Bachelor of Commerce (BE/BCom)

2.1.4 Bachelor of Information Technology/Bachelor of Medical Science (BE/BMedSc)

2.1.5 Bachelor of Information Technology/Bachelor of Science (BE/BSc)

3. Requirements for the degrees at pass level

3.1 To qualify for the award of the degrees at pass level, a student must:

3.1.1 for the BIT/BA, BIT/BCom, BIT/BMedSc and BIT/BSc combined degrees , complete successfully units of study giving credit for a total of 240 credit points;

3.1.2 complete the core requirements of an Informatio Technology specialisation as shown in the Faculty Engineering and Information Technologies Specialisation Tables; and

3.1.4 must complete the requirements published in the Resolutions of the Faculty of Engineering and Information Technologies and in the Joint Resolutions of the Faculty of Engineering and Information Technologies and the Faculties of Arts, Economics and Business or Science, as the case may be, as well as all other relevant By-Laws, Rules and Resolutions of the University.

4. Requirements for the degrees with honours

4.1 To qualify for the award of the BIT degree with honours as part of a combined degree, a student must:

4.1.1 complete the requirements for the pass degree;

4.1.2 complete the honours requirements published in the Resolutions of the Faculty of Engineering and Information Technologies relating to the BIT combined degrees.

4.2 To qualify for the award of Honours in the partner degree, either BA, Bcom, BMedSc or BSc, a student must

4.2.1 complete the requirements pertaining to Honours published in in the Joint Resolutions of the Faculty of Engineering and Information Technologies and the Faculties of Arts, Economics and Business, or Science, as the case may be.

SECTION 1 – APPENDIX 4: RESOLUTIONS OF THE FACULTY

Combined Degree Resolutions

The Resolutions for all coursework degrees, diplomas and certificates must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all coursework courses, and with the relevant Faculty Resolutions.

Course title: Bachelor of Engineering and Bachelor of Design in Architecture

1. Cross-faculty management of combined award course

1.1 The Faculty of Engineering and Information Technologies is the primary faculty of management of the combined award course.

1.2 The Deans of the Faculty of Engineering and Information Technologies and the Faculty of Architecture, Design and Planning shall jointly exercise authority in any matter concerning the combined award course not otherwise dealt with in these resolutions.

1.3 Students will be subject to the resolutions in the Faculty of Engineering and Information Technologies Handbook and the Faculty of Architecture, Design and Planning Handbook.

1.4 Unless detailed below, students will be subject to conditions on admission, stream requirements, enrolment restrictions, assessment, advanced standing, progression, academic honesty, degree completion times and transition arrangements as shown in the resolutions published in the Faculty of Engineering and Information Technologies Handbook for the Bachelor of Engineering degree.

1.5 This combined degree program is only available to students undertaking one of the Engineering streams offered by the School of Civil Engineering,

2. Admission

2.1 An applicant may gain admission to the Bachelor of Engineering and Bachelor of Design in Architecture under the conditions set out in the University's Admissions policy.

2.2 An international applicant must meet the English language requirements of an IELTS score of 7, with no band less than 6.

3. Units of study

3.1 The units of study which may be taken for the degrees of Bachelor of Engineering and Bachelor of Design in Architecture are set out in the Civil Engineering table of the Faculty of Engineering and Information Technologies Handbook, and Table A: Bachelor of Design in Architecture of the Faculty of Architecture, Design and Planning Handbook, together with:

3.1.1 designation as junior, intermediate, senior or honours units of study;

3.1.2 credit point values;

3.1.3 assumed knowledge, corequisites and prerequisites;

3.1.4 the semesters in which they are offered;

3.1.5 the units with which they are mutually exclusive; and

3.1.6 designation as core, stream or elective.

4. Requirements for the degree of Bachelor of Engineering and Bachelor of Design in Architecture

4.1 To qualify for the award of the pass degrees of Bachelor of Engineering and Bachelor of Design in Architecture a student must complete successfully units of study giving credit for a total of 240 credit points and include:

4.2 *From the Faculty of Engineering and Information Technologies*

4.2.1 144 credit points from core units of study as described in the table of units for the degree specialisation Bachelor of Engineering (Civil); and

4.3 *From the Faculty of Architecture, Design and Planning*

4.3.1 90 credit points from core units of study as described in Table A for the Bachelor of Design in Architecture; and

11. 6 credit points from the Master of Architecture prerequisite table.

5. Requirements for honours degrees

5.1 *Bachelor of Engineering with Honours*:

5.1.1 On completion of the requirements for the combined degrees a student may qualify for the award of the degree with honours in accordance with the requirements set out in the resolutions of the Faculty of Engineering and Information Technologies relating to the Bachelor of Engineering degree.

5.2 *Bachelor of Design in Architecture*

5.2.1 On completion of the combined degrees a student may be qualified to enrol in Honours in the bachelor of Design in Architecture.

5.2.2 A student may qualify for the award of the degree with honours by completion of an additional 48 credit points, in accordance with the requirements set out in the resolutions of the Faculty of Architecture, Design and Planning relating to the Bachelor of Design in Architecture degree.

6. Award of the Bachelor of Engineering and Bachelor of Design in Architecture

6.1 A student who completes the requirements for the Bachelor of Engineering and Bachelor of Design in Architecture degrees shall receive at graduation a separate testamur for each of the degrees.

6.2 A student may abandon the combined degree of Bachelor of Engineering and Bachelor of Design in Architecture and elect to complete either the Bachelor of Engineering or Bachelor of Design in Architecture degree in accordance with the resolutions governing that degree.

SECTION 1 – APPENDIX 5: LIBRARY IMPACT STATEMENT

I have examined the Library needs related to the proposal and certify that existing Library holdings, staffing, services and accommodation are, or will be, **adequate/inadequate** to cover the demands that are inherent in it.
(If there are any concerns about library holdings, please address these.)

....
for the University Librarian **Date**

Further comments:

Holdings:

Services/Staffing:

SECTION 2: FEE REVIEW AND FEE SETTING

Faculty: **Engineering and Information Technologies**

Department/School presenting the proposal: **School of Civil Engineering**

Faculty Contact person and/or: Professor Kim Rasmussen (Civil) **Ext. No:** 12125
Academic Proponent **Email:** K.Rasmussen@civil.usyd.edu.au
Faculty Contact person and/or: Professor Tom Heneghan (Arch) **Ext. No:** 18570
Academic Proponent **Email:** heneghan@arch.usyd.edu.au

2.1.1 Type of proposal: **New** ☒
Amended ☐ **Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.**
Deletion ☐

2.1.2 Type of course: **Undergraduate** ☒
Postgraduate coursework ☐
Postgraduate research ☐

2.1.3 Name of award course(s)
Name of **new** award course: Bachelor of Engineering/Bachelor of Design in Architecture

Name of **amended** award course: OR

Change of name of **existing** award course: from to OR

Name of award course to be **deleted**:

2.1.4 Abbreviated name
BE/BDesArch

2.1.5 Date of introduction or deletion
Introduced: Year 2009 Semester 1
Deletion: Year Semester

2.1.6 Fee review and Fee-setting
regarding fees.

2.1.6.1 Fees for Undergraduate award course:

Undergraduate award course	**Current fee band and fees** (per 1 EFTSU per annum)		**Proposed increase** (%)		**Proposed fee band and fees** (per 1 EFTSU per annum)	
	Local students	International students	Local	Int'l	Local students	International students
As for BE	23,040	24,720			2	

PROPOSED BY:

Nominated Faculty Officer Dean of Faculty (or Delegate)

APPROVAL:

Provost and Deputy Vice-Chancellor/Vice-Chancellor

SECTION 2 – APPENDIX 1: CONSULTATION CHECKLIST FOR FEE REVIEW AND FEE-SETTING

Internal/External Stakeholder	Contact person	Issue / Topic
International Office	Deputy Director Marketing	**Fee-setting, international market** 7 Proposed Fees for international students 8 Sensitivities in the international student market
Planning Support Office	Director, Office of Strategy Implementation & Sustainability Planning	**Fee-setting** 9 Costing for delivery of courses 10 Costing and pricing model

SECTION 3: COURSE INFORMATION FORM AND MARKETING PLAN

PART 1: COURSE INFORMATION FOR FLEXSIS

Faculty: **Engineering and Information Technology**

Department/School presenting the proposal: **School of Civil Engineering**

Faculty Contact person and/or: Professor Kim Rasmussen (Civil) **Ext. No:** 12125
Academic Proponent **Email:** K.Rasmussen@civil.usyd.edu.au
Faculty Contact person and/or: Professor Tom Heneghan (Arch) **Ext. No:** 18570
Academic Proponent **Email:** heneghan@arch.usyd.edu.au

3.1.1 Type of proposal: **New** ☒
Amended ☐ **Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.**
Deletion ☐

3.1.2 Type of course: **Undergraduate** ☒
Postgraduate coursework ☐
Postgraduate research ☐

3.1.3 Name of award course(s)

Name of **new** award course: Bachelor of Engineering/Bachelor of Design in Architecture

Name of **amended** award course: OR

Change of name of **existing** award course: from to OR

Name of award course to be **deleted**:

3.1.4 Abbreviated name

Be/BDesArch

3.1.5 Date of introduction or deletion

Introduced: Year 2009 Semester 1

Deletion: Year Semester

3.1.6 Course code

Course code of existing award course for amendment or deletion:
New course code required.

3.1.7 CRICOS code

CRICOS code of existing award course for amendment or deletion:
New CRICOS code required.

3.1.8 Short degree description (e.g. for the UAC Guide):

3.1.9 Full degree description (e.g. for Faculty handbook):
B Engineering/B Design in Architecture

Assumed knowledge: HSC Mathematics Extension 1. HSC English Advanced. Other assumed knowledge depends on first year units of study selected.

3.1.10 Level of award:

Higher doctorate	☐
Doctor of Philosophy (PhD)	☐
Doctorate by research and advanced coursework	☐
Master's degree by research	☐
Master's degree by coursework	☐
Graduate Diploma	☐
Graduate Certificate	☐
Bachelor's degree	☒
Advanced Diploma	☐
Associate Diploma	☐
Diploma	☐
Certificate	☐

3.1.11 Is this an Honours course? Yes ☒ No ☐
Honours requirements (if applicable):

3.1.12 If the proposal is for a new award course, please indicate if the new course is the result of new resolutions for an existing course? Yes ☒ No ☐

3.1.13 Name of award that will be conferred upon completion of course:
Bachelor of Engineering/Bachelor of Design in Architecture

3.1.14 If the proposal is for a new award course, please indicate which category the proposed course should be allocated to according to the DEST Field of Education and Discipline Area (available from the Courses and Fees Toolkit):

DEST Field of Education	0307, 0309, 0401 and 0403
DEST Discipline Area	0309, 0401, 0403

3.1.15 Credit points required for the award: 240

3.1.16 Location/campus for student attendance:

Camperdown & Darlington	☒	Camden	☐	Cumberland	☐
Mallett Street	☐	St James	☐	College of the Arts	☐
Conservatorium	☐	Offshore	☐	please specify	
Hospital (please specify)					

3.1.17 Are students enrolling in the proposed award course subject to:

Criminal Record Check	Yes	☐	No	☒
Prohibited Employment Declaration	Yes	☐	No	☒
Health Records & Privacy Information Declaration	Yes	☐	No	☒

3.1.18 Prohibitions:
Prohibitions apply at the unit of study level.

3.1.19 Articulation pathway (if applicable)**:**

Not applicable

Course(s) to which this course articulates		Credit given in articulating course
Code	**Name**	

3.1.20 Units of study offered in proposed award course:

(a). Existing units of study

UoS Code	*UoS Name*	*Core/ Elective*	*Session offered*	*Course year offered*
DESA1001	Design Practice 1A	Core	1	1
DESA1101	Design Studies 1A	Core	1	1
DESA1002	Design Practice 1B	Core	2	1
DESA1102	Design Studies 1B	Core	2	1
MATH1001	Differential Calculus	Core	1	1
MATH1002	Linear Algebra	Core	1	1
MATH1003	Integral Calculus and Modelling	Core	2	1
MATH1005	Statistics	Core	2	1
ENGG1800	Introduction to Engineering Disciplines	Core	1	2
ENGG1801	Engineering Computing	Core	1	2
MATH2061	Linear Maths & Vector Calculus	Core	1	2
PHYS1001	Physics 1	Core	1	2
ENGG1802	Engineering Mechanics	Core	2	2
ENGG1803	Professional Engineering 1	Core	2	2
GEOL1501	Engineering Geology 1	Core	2	2
AMME2302	Materials 1	Core	2	2
DESA2001	Design Practice 2A	Core	1	3
DESA2111	Design Studies 2	Core	1	3
DESA2002	Design Practice 2B	Core	2	3
CIVL2201	Structural Mechanics	Core	1	3
CIVL2611	Fluid Mechanics	Core	2	3
CIVL2410	Soil Mechanics	Core	2	3
DESA3001	Design Practice 3A	Core	1	4
DESA3002	Design Practice 3B	Core	2	4
CIVL2801	Engineering Construction and Surveying	Core	1	4
CIVL3812	Project Appraisal	Core	1	4
CIVL3206	Steel Structures 1	Core	2	4
CIVL3235	Structural Analysis	Core	2	4
DAAP3002	Architectural Technologies	Core	2	5
CIVL3205	Concrete Structures 1	Core	1	5
CIVL4811	Engineering Design and Construction	Core	1	5
CIVL3612	Environmental and Fluids Engineering	Core	1	5
CIVL4020	Thesis A	Core	1	5
CIVL4903	Civil Engineering Design	Core	2	5

CIVL4###	Architectural to Structural Design	Core	2	5
CIVL4021	Thesis B	Core	2	5

Notes:

6 CIVL2230 Introduction to Structural Concepts and Design is a core unit in Civil Engineering. It is not included in the list of core units for the BE/BDesArch degree because the curriculum is largely covered by DESA2111 Design Studios 2.

7 CIVL3010 Engineering and Society is a core unit in Civil Engineering. It is not included in the list of core units for the BE/BDesArch degree because the curriculum is largely covered by DESA1101 Design Studios 1A and DESA1102 Design Studios 1B.

(b). New units of study

UoS Code	***UoS Name***	***Core/ Elective***	***Faculty***	***Australian Standard Classification Education (ASCED) Code***	***Session & campus offered***	***Credit points***
CIVL4###	Architectural to Structural Design	Core	Engineering		2, Darlington	6

SECTION 3 : COURSE INFORMATION FORM AND MARKETING PLAN

PART 2: COURSE INFORMATION FOR UNIVERSITY'S UNDERGRADUATE AND POSTGRADUATE COURSE DATABASE (FOR MARKETING PURPOSES)

3.2.1 UAC code: TBA (Undergraduate courses only)

3.2.2 CRICOS code: TBA

3.2.3 Career opportunities: Examples include careers in engineering, notably structural engineering, consulting engineering and construction management, and careers in architecture.

3.2.4 Areas of study: Mathematics, computing, Architecture design, Civil Engineering, structural engineering, project management.

3.2.5 Assumed knowledge: HSC Mathematics extension 1 or equivalent. HSC English Advanced. Other assumed knowledge depends on first year subjects selected.

3.2.6 Minimum education requirements:

Year 12 (senior secondary certificate) or equivalent	☒	Bachelor's degree (pass)	☐
		Bachelor (Hons)	☐
No minimum education	☐	Graduate Certificate	☐
Mature background	☐	Graduate Diploma	☐
Relevant employment experience	☐	Master's degree	☐

Additional information:

3.2.7 If the proposal is for a Postgraduate award course, please indicate the course method:

Coursework ☐ Coursework with research pathway ☐

Research ☐

3.2.8 UAI (for UG only): 2007 93.15
2006 93.05

3.2.9 Additional admission selection criteria:

3.2.10 If the course is offered to international students please complete the following:

UAI International (for international students only): 93.15 (Undergraduate courses only)

Other international student entry requirements:

3.2.11 If the proposal is for a Postgraduate award course, please indicate the application closing date:

For local students, closing date for applications is

For international students, closing date for applications is

3.2.12 Will mid-semester intake be available for:

Commonwealth-supported students	Yes	☐	No	☒
Local fee-paying students	Yes	☐	No	☒
International fee-paying students	Yes	☐	No	☒

SECTION 3 : COURSE INFORMATION FORM AND MARKETING PLAN

PART 3: MARKETING PLAN

3.3.1 Marketing plan and strategy

The proposed award course will be marketed to prospective students via the UAC Guide, the International Office publications and website, and through student recruitment events targeting high school students conducted by the university, the faculty, and the school, e.g. Sydney Uni Live, Information Day, meetings with career advisers and teachers, etc.

APPROVALS

Nominated Faculty Officer **Dean of Faculty (or Delegate)**

SECTION 4: INTERNATIONAL STUDENT ADMINISTRATION REQUIREMENTS

Faculty: **Engineering and Information Technologies**

Department/School presenting the proposal: **School of Civil Engineering**

Faculty Contact person and/or: Professor Kim Rasmussen (Civil) **Ext. No:** 12125
Academic Proponent **Email:** K.Rasmussen@civil.usyd.edu.au
Faculty Contact person and/or: Professor Tom Heneghan (Arch) **Ext. No:** 18570
Academic Proponent **Email:** heneghan@arch.usyd.edu.au

4.1.1 Type of proposal: **New** ☒
Amended ☐ **Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.**
Deletion ☐

4.1.2 Type of course: **Undergraduate** ☒
Postgraduate coursework ☐
Postgraduate research ☐

4.1.3 Name of award course(s)

Name of **new** award course: Bachelor of Engineering/Bachelor of Design in Architecture

Name of **amended** award course: OR

Change of name of **existing** award course: from to OR

Name of award course to be **deleted**:

4.1.4 Abbreviated name

BE/BDesArch

4.1.5 Date of introduction or deletion

Introduced: Year 2009 Semester 1

Deletion: Year Semester

4.1.6 Course code

Course code of existing award course for amendment or deletion: New course code required.

4.1.7 CRICOS code

CRICOS code of existing award course for amendment or deletion: New CRICOS code required.

4.1.8 Marketing plan and strategy

The proposed award course will be marketed to prospective students via the UAC Guide, the International Office publications and website, and through student recruitment events targeting high school students conducted by the university, the faculty, and the school, e.g. Sydney Uni Live, Information Day, meetings with career advisers and teachers, etc.

4.1.9 Availability of course

Will international students be able to enrol full-time?

Yes ☒ No ☐

4.1.10 Mode of study

Will international students be able to study the proposed course in "face-to-face" mode for at least 75% of the time each semester?

Yes ☒ No ☐

4.1.11 Incidental (ancillary) fees

Will the proposed course incur any compulsory costs other than tuition fees and compulsory subscriptions?

Yes ☒ Students are required to purchase course notes, text books and practical materials where required. Additional cost is estimated at $150 per year of candidature.

4.1.12 Commencement semester

Indicate whether entry to the course is possible in each semester.

SEM1 ONLY ☒ SEM1or 2 ☐ SEM2 ONLY ☐

If entry is permissible in Semester 2, please indicate whether subject choice will be restricted and whether the duration of the course will necessarily increase?

4.1.13 English language requirements

Will the minimum English language requirement for the proposed course differ from the usual requirements (i.e. overall IELTS score of 6.5 with a minimum of 6.0 in each band)?

Yes ☒ Please indicate IELTS equivalent IELTS 7 with no band less than 6

No ☐

4. APPROVALS

……

5. Dean or delegate

The Proposed Course is suitable for CRICOS registration and International Office processing.

.....

Director International Office

SECTION 4 – APPENDIX 1: CONSULTATION CHECKLIST FOR INTERNATIONAL STUDENT ADMINISTRATION REQUIREMENTS

Internal/External Stakeholder	Contact person	Issue/Topic
Academics and other staff from own Faculty		**Other course** 11 Information on how other courses are developed and marketed to overseas students
International Office	Deputy Director, Government Relations and Student Advice	**Legislative compliance** 12 Legislative compliance for offering courses to international students e.g. requirements relating to mode of delivery/study 13 Arrange CRICOS registration
International Office	Deputy Director Marketing and Admissions	**International market and admissions** 14 Sensitivities in the international student market 15 English language requirements
Faculty Marketing officer		**Market research, marketing** 16 Conducting market research and analysis 17 Marketing plans and strategy 18 Primary or secondary sources of comparative data

SECTION 5: PLANNING SUPPORT OFFICE

Faculty: **Engineering and Information Technologies**

Faculty Contact person and/or: Professor Kim Rasmussen (Civil) **Ext. No:** 12125
Academic Proponent **Email:** K.Rasmussen@civil.usyd.edu.au
Faculty Contact person and/or: Professor Tom Heneghan (Arch) **Ext. No:** 18570
Academic Proponent **Email:** heneghan@arch.usyd.edu.au

5.1.1 Type of proposal: **New** ☒
Amended ☐ **Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.**
Deletion ☐

5.1.2 Type of course: **Undergraduate** ☒
Postgraduate coursework ☐
Postgraduate research ☐

5.1.3 Name of award course(s)
Name of **new** award course: Bachelor of Engineering/Bachelor of Design in Architecture

Name of **amended** award course: OR

Change of name of **existing** award course: from to OR

Name of award course to be **deleted**:

5.1.4 Abbreviated name
Be/BDesArch

5.1.5 Date of introduction or deletion
Introduced: Year 2009 Semester 1
Deletion: Year Semester

5.1.6 Estimated percentage distribution of load across departments in one or more faculties:

Faculty	Department	Estimated percentage of load
Engineering and IT	**Faculty level and Civil**	**50%**
Architecture, Design and Planning	**Architecture, Design and Planning**	**40%**
Science	**Maths and Geology**	**10%**

5.1.7 Number of semesters required to complete the course in minimum time

5.1.8 Estimated student enrolments (i.e. head count)

Estimated student enrolments		2009	2010	2011
Commonwealth-supported	Full-time	10	15	20
	Part-time			
Local fee-paying	Full-time	0	0	0
	Part-time			
International fee-paying	Full-time	5	5	5
	Part-time			
Total student enrolments		15	20	25

5.1.9 For undergraduate degrees only, please indicate the expected 'carry-on' rate from one academic year to the next. 100%
e.g. the number of students in first year in year 'n' expected to re-enrol in second year in year 'n+1'.

5.1.10 **IMPORTANT** The University operates within a fixed target for Commonwealth-supported load. Any new course proposals which include intakes of Commonwealth-supported (HECS) students must be accompanied by an indication of a corresponding reduction in the HECS intake to another degree of similar duration offered within the same Faculty.
Details of proposed reduction: To be advised.

APPROVALS

Nominated Faculty Officer **Dean of Faculty or delegate**

CHECKLIST FOR SECTIONS 1 - 5

Section 1 – Academic Board course proposal

For proposed new/amended course have the following been completed:
Part 1 – Overview of proposal..... ☐
Part 2 – Details for assessment of proposal ..... ☐
Part 3 – Resource implications ..... ☐
Appendix 2,3,4,5 ..... ☐

For proposed deleted course have the following been completed:
Part 1 – Overview of proposal..... ☐
Part 2 – Details for assessment of proposal (items 1.2.1, 1.2.2, 1.2.9, 1.2.11 ONLY) ..... ☐
Appendix 2,3,4 ..... ☐

Has the course proposal been signed off by the dean and faculty manager? ..... ☐

Section 2 – Fee review and fee-setting

Has this section been completed for new/amended course? ..... ☐

Has this section been signed off by the Provost, dean and faculty manager? ..... ☐

Section 3 – Course information form and marketing plan

For proposed new/amended course have the following been completed:
Part 1 – Course information for FlexSIS ..... ☐
Part 2 – Course information for University's Course Database ..... ☐
Part 3 – Marketing plan..... ☐

Have the Student Centre and Marketing & Student Recruitment Unit been consulted about the deleted course? ..... ☐

Has this section been signed off by the dean and faculty manager?..... ☐

Section 4 – International student administration requirements

Has the section been completed for proposed new/amended course? ..... ☐

Has the International Office been consulted about the deleted course? ..... ☐

Has this section been signed off by the dean/nominee and Director, International Office? ☐

Section 5 – Planning support office

Has the section been completed for proposed new/amended course? ..... ☐

Has the Planning Support Office been consulted about the deleted course?..... ☐

Has this section been signed off by the dean and faculty manager?..... ☐

10.3.4
SECTION 1: ACADEMIC BOARD COURSE PROPOSAL

PART 1: OVERVIEW OF PROPOSAL

Faculty: **Engineering and Information Technologies**
Department/School presenting the proposal: **School of Information Technologies**

Faculty Contact person: Annette Alexander **Ext. No: 18556**
Academic Proponent : A/Prof Sanjay Chawla **Ext. No: 13516**
Email: chawla@it.usyd.edu.au

Date course approved by Faculty: **Engineering and IT : 18-03-2008**
Arts : 6-03-2008

1.1.1. Type of proposal: **New** ☒
Amended ☐ *Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.*
Deletion ☐ *For deletion of a course please complete Part 1, and Part 2 items 1.2.1, 1.2.2, 1.2.9 and 1.2.11.*

1.1.2. Type of course: **Undergraduate** ☒
Postgraduate coursework ☐
Postgraduate research ☐
Other (provide details) ☐

1.1.3. Name of award course(s)
Name of **new** award course/s:
Bachelor of Information Technology/Bachelor of Arts

1.1.4. Abbreviated name
BIT/BA

1.1.5. Date of introduction or deletion

Introduced: Year 2009 Semester 1

1.1.6 Availability to students

Commonwealth supported students	☒	Full-time	☒
		Part-time	☐
Fee-paying local students	☒	Full-time	☒
		Part-time	☐
Fee-paying international students	☒	Full-time	☒
		Part-time	☐
Research Training Scheme	☐	(PG Research students only)	

PART 2: DETAILS FOR ASSESSMENT OF PROPOSAL

1.2.1 Purpose of the proposal

The purpose of this proposal is to create the combined degree of Bachelor of Information Technology and Bachelor of Arts. The course is designed to meet the growing industry demand for elite graduates who master both the Information Technology (IT) and Arts disciplines, and to allow students who are interested in both IT and Arts the opportunity to study both degrees simultaneously and graduate with skills which would make them an asset to both professions.

1.2.2 Justification for proposal

The BIT degree is a four year degree which prepares graduates to be leaders in advancing IT or applying cutting-edge IT. It is focussed on data and algorithms, the central ideas that underpin IT. The degree includes a core of topics such as programming, data structures, databases, systems analysis, project management, and a substantial (12 credit point) industry-based group project. Students study at least 84 credit points of IT topics at 3000- and 4000-level, such as data mining, advanced data models, information visualization, pervasive computing, natural language processing, and high-performance network computing. The BA degree is a three year degree where each graduate completes a major in an Arts subject area such as Asian studies, digital cultures, history, linguistics or a language. The proposed BIT/BA will allow students to achieve the outcomes of both these degrees in only 5 years of study.

The proposal is in line with the vision of the Faculty of Engineering and Information Technologies to have two core degrees, BE and BIT, and a set of combined degrees with them. There are five existing BE combined degrees which are very successful, including BE/BA, and only one combined BIT degree, BIT/BCom, which was introduced last year and was oversubscribed. The proposal aims to increase the number of combined degrees with BIT, similarly to the combined degrees with BE.

BE(Software Engineering) and BE(Computer Engineering) are related to BIT. However, the three degrees have different focus: development of software in BE(Software Engineering), design of computer hardware in BE(Computer Engineering), and data and algorithms in BIT. In addition, neither BE(Software Engineering) nor BE(Computer Engineering), allow covering of key ideas underlying innovation in the IT field, such as the topics covered in the third and fourth year BIT units in computer science and information systems.

The closest existing degree at the University of Sydney is the BSc/BA combined degree, in which students can choose Computer Science or Information Systems as their Science major. The proposed degree however has far more coverage of higher year material in IT (84 credit points compared to between 24 and 48 in the BSc), and in particular it provides access to the fourth year material such as the topics listed in the second paragraph above. Unlike the BSc, the BIT includes a half-semester group project working on a task for an industry client. The proposed BIT/BA will also be much more visible than the BSc/BA to potential students seeking the combination of technical material in IT with Arts expertise, both because IT is in the name of the degree, and also because it will listed under the Faculty of Engineering and Information Technologies, rather than under the Faculty of Science which is not naturally associated with IT.

Another comparison might be to the single degrees, each of which has room for some electives which could be taken from the other area (e.g. BIT students can take 48 credit points of Arts). However, neither of these provides room for nearly as much depth and breadth across both IT and Arts as the proposed combined degree.

The proposed BIT/BA degree represents a different model from the two Arts degrees which were recently closed down due to insufficient enrolments: Bachelor of Arts Informatics and Bachelor of Arts (Digital Technology and Culture). In particular, the proposed combined degree aims at attracting a different cohort of students due to its stronger IT component and high cut-off (mid 90s) while the previous degrees were Arts degrees with an IT major (Information Systems) and lower cut-off (mid 70s). The Faculty of Arts offers a major in Digital Cultures attracting an

increasing number of students. Digital Cultures will be very attractive to BIT/BA as a program dedicated to bridging the Arts and Information Technologies.

The proposed degree will produce graduates who can meet a strong need from industry, for employees who have both extensive technical understanding of IT and essential skills in disciplines from humanities, languages and social sciences. The demand for people with this combination of skills is strong, as shown in the support letters and the results from the student focus group. This proposal will fill an important gap in the suite of degree offerings, and it will not require any additional units of study to be delivered.

1.2.3 Benchmarking, market research and analysis

1.2.3.1 Benchmarking:

There is clearly an existing need for an award which combines a deep knowledge in IT and majors in Arts areas. This is supported by the enclosed letters from potential employers, professional organisations, alumni and the feedback from the student focus group.

The proposal is also necessary to keep up with competition from other Australian Universities. All the other Go8 universities, except the University of Melbourne and the University of Adelaide, have combined degrees which specifically combine an IT degree with an Arts degree (see below). The University of Adelaide and the University of Sydney have combined Engineering degrees with Arts: Computer Systems (Adelaide), and Software and Computer Engineering (Sydney). However, as mentioned already, the focus of BE(Software Engineering), BE(Computer Engineering) and BIT is different: The UNSW has both an Engineering and IT degree combined with Arts.

1.2.3.2 Market research and analysis:

1.2.3.3 Summary table of competitive offerings to proposed award course:

Institute	Competitive offering	Additional information
UNSW	BSc (Computer Science)/ BA BE(Computer Engineering)/BA(major)	4 years 5 years
UQ	BInfTech/BA	4 years
UWA	BArts/BComputerScience	4.5 years
ANU	BArts/BInfoTech	4 years
Monash	BArts/BCompSci	4 years
Melbourne	N/A	
Adelaide	BE(Computer Systems)/BArts	5 years
Sydney	BE/BA	5 years

1.2.3.4 Estimated student demand

Estimated student demand	2009	2010	2011
Commonwealth-supported	15	20	25
Local fee-paying	5	5	5
International fee-paying	5	7	10
Estimated Total EFTSU	0	0	0
Lowest EFTSU for which course would be run	5	7	10

Estimated full-time and part-time Students	2009	2010	2011
Estimated number of Full-time students	100%	100%	100%
Estimated number of Part-time students			

Impact on students currently enrolled: The proposed course may have an impact on the students enrolled in first year BIT as they may be allowed to transfer to the

combined award. Similarly students enrolled in BCST(Adv) may become eligible to upgrade to BIT and then transfer to the combined BIT/BA award.

Enrolment Quotas:
Will quotas be set for the proposed award course or for any units of study within the award course?

For local fee-paying students
Yes ☐
No ☒

For international fee-paying students
Yes ☐
No ☒

1.2.4 Consultation and external references

Consultees	Date of consultation	Method of consultation	Type of supporting evidence provided
Australian Computer Society (ACS)	February 2008	Phone/email	Letter from the President of ACS
Students	February 2008	Focus group	Report on the analysis of focus group
Dr Jason Catlett, Director, Triumfa Pty Ltd	February 2008	Phone/email	Letter of support
Ms Irene Frisby, Human Resource Manager Optivar	February 2008	Phone/email	Letter of support
Miss Nicola Ringland, recent Arts graduate (USyd)	February 2008	Meeting	Letter of support
Dr Chris Chesher, Director, Digital Cultures Program, Faculty of Arts	February 2008	Email/Meeting	Letter of support

1.2.5 Course structure

1.2.5.1

Bachelor of Information Technology/Bachelor of Arts (BIT/BA)	Length of candidature (years)	Type of enrolment	
		Full-time	Part-time
	Minimum	5	
	Maximum	10	

1.2.5.2 Minimum credit points required for completion of qualification: 240 credit points.

1.2.5.3 Mode of delivery: Face-to-face teaching ☒ Distance education ☐
Offshore delivery ☐
This is a combined degree: the individual degrees are delivered face to face.

1.2.5.4 Does the course involve clinical or industrial placement/experience?
Yes ☒ No ☐

All BIT students must enrol in INFO3600, a 12 credit point unit, involving industry-based project.

1.2.5.5 Please indicate what processes are in place to guarantee the quality of academic staffing, available resources for teaching and provision of adequate curriculum delivery, assessment and authentication of student work.

Students will take existing units and combine existing awards for which processes are already in place

1.2.6 Assessment procedures

Proposed assessment regime	**Proportion of assessment regime** (%)	**Use of external assessors/examiners** (Yes/No) (if yes, please provide details)
The assessment regime will use the existing assessment regime of the individual awards of BIT and BA		No

1.2.7 Student workload

1.2.7.1

Expected workload	**Total time expected (per credit point)**
Lectures	2
Tutorials	2
Practical experience	
Independent study	3
Reading and work for assessment	5
Others (please specify):	

1.2.7.2 Provide an indication of how the academic course load including the weight given to any dissertation component compare with other similar course loads in the faculty/college/university
Similar to BE requirement

1.2.7.3 What load for HECS and student load purposes should be given to each of the constituent parts or units making up the award course?
0.125

1.2.8 Attributes of graduates

Research and inquiry
An appreciation of the ubiquitous role of IT in the modern workplace. The ability to apply and contextualise a deep understanding of IT for decision making in Arts disciplines. An awareness of IT as a dynamic field with rapid changes taking place on a continuous basis.

Information literacy
An ability to gather, manage, integrate and critique IT and arts information attained from various sources in order to ascertain the relevant information required for the identification, formulation and solution of a problem.

Personal and intellectual autonomy
Graduates of the combined degree will be able to work as strong team members, in a way that is informed by openness, curiosity and a desire to meet new challenges; and in an environment that will combine the disciplines of IT and Arts.

Ethical, social and professional understanding
Graduates will possess an ability to function in, and lead, a multi-disciplinary, multi-cultural and multi-national team. This is especially important since modern IT projects transcend national boundaries.

Communication
Graduates of the combined degree will be able to effectively communicate ideas in both IT and arts domains. They will learn how to serve as conduits to bridge the gap between the two domains.

1.2.9 Transitional arrangements (for continuing students)

Not applicable, but transfer from existing programs available to eligible students.

1.2.10 Course administration

Course to be administered by the following Faculty: Engineering and Information Technologies

1.2.10.1 Is there **shared teaching** with other Faculties?

Yes ☒ Please see below on provision of additional information.
No ☐

If yes,

Faculty	Percentage of EFTSU
Managing Faculty: EIT	57.5%
Collaborating faculties: Arts	35%
External partners: Science	7.5%

1.2.10.2 Basis for the above allocation between faculties: Combined degree: 138 credit points in Engineering and Information Technology, 84 credit points in Arts and 18 credit points in Mathematics/Statistics

1.2.10.3 Combined degree – inter-faculty arrangements: The Faculty of Arts has been, and will be, consulted on an on-going basis.

1.2.10.4 Is the proposed award course part of a **con-joint venture** with another institution?

Yes ☐ No ☒
If yes, has the Director Student Centre been consulted?
Yes ☐ No☐

1.2.11 Resolutions

1.2.11.1 Are there changes to the list of Degrees, Diplomas and Certificates conferred by your Faculty, as listed in the **Resolutions of the Senate** available in the University Calendar?

Yes ☒ *If yes, please complete Appendix 2.*

No ☐

1.2.11.2 Will there be new Resolutions or changes to the existing **Resolutions of the Senate** for the proposed Coursework award course?

Yes ☒ *If yes, please complete Appendix 3.*
No ☐

1.2.11.3 Will there be new Resolutions or changes to the existing **Faculty Resolutions** for the proposed award course?

Yes ☒ *If yes, please complete Appendix 4.*
No ☐

1.2.11.4 Will there be changes to the academic dress due to the introduction of the proposed new award course?

Yes ☐ No ☒

1.2.12 Quality assurance arrangements and plans

Since this is a combined degree alll quality assurance procedures are already in place from the existing constitutent degrees

SECTION 1 : ACADEMIC BOARD COURSE PROPOSAL

PART 3: RESOURCE IMPLICATIONS

1.3.1 Estimated Student Numbers for next three years of the award course

Estimated Student Demand	2009	2010	2011
Estimated Student Numbers	20	32	40
Estimated EFTSU	20	32	40

1.3.2 Availability of teaching and support staff

1.3.2.1 Availability of academic and support staff to deliver the proposed award course:

Since this combines two awards, academic and support staff is already in place for the constituent awards

1.3.2.2 Strengths of the department/school/faculty:

Both the School of Information Technology and the Faculty of Arts are national and international leaders in their respective domains.

1.3.3 Availability of teaching space, and other required facilities

1.3.3.1 Teaching rooms: Already in place

1.3.3.2 Lecture theatres: Already in place

1.3.3.3 Laboratories (including computer access labs): Already in place

1.3.3.4 Staff offices: Already in place

1.3.3.5 Storage or other space required including any which needs to be rented externally: Already in place

1.3.4 Availability of Library Resources

Library holdings are adequate because all units of study are existing units.

1.3.5 Availability of IT and other Equipment

1.3.5.1 Computer Technology: Already available

1.3.5.2 Other Equipment: Already available

1.3.6 Timetabling arrangements

The proposed award course will be offered in the following teaching period:

standard ☒ non-standard teaching ☐
(e.g. Summer School, Winter School)

APPROVALS

Nominated Faculty Officer **Dean of Faculty (or Delegate)**

SECTION 1 – APPENDIX 2: RESOLUTIONS OF THE SENATE (DEGREES, DIPLOMAS AND CERTIFICATES)

Resolutions of the Senate
Degrees, diplomas and certificates in the Faculty of Engineering and Information Technologies

The Resolutions of the Senate relating to degrees, diplomas and certificates in the Faculty of Engineering and Information Technologies (pp.229-230, *Calendar 2008)* are amended, with effect from 1 January 2009, as follows:

DEGREES, DIPLOMAS AND CERTIFICATES IN THE FACULTY OF ENGINEERING and INFORMATION TECHNOLOGIES

1. The degrees in the Faculty of Engineering and Information Technologies shall be:
1.1 Bachelor of Engineering (BE)
1.2 Bachelor of Information Technology (BIT)
1.3 Bachelor of Computer Science and Technology (BCST)
1.4 Bachelor of Computer Science and Technology (Advanced)(BCST(Advanced))
1.5 Master of Engineering (ME)
1.6 Master of Engineering Practice (MEP)
1.7 Master of Environmental Engineering Practice (MEEP)
1.8 Master of Philosophy in Engineering (MPhil)
1.9 Master of Project Management (MPM)
1.10 Master of Information Technology (MInfTech)
1.11 Master of Information Technology Management (MInfTechMan)
1.12 Master of Applied Information Technology (MAppIT)
1.13 Master of Philosophy in Information Technology (MPhil)
1.14 Doctor of Philosophy (PhD)
1.15 Doctor of Engineering (DEng)
1.16 Doctor of Engineering Practice (DEngPrac)

2. The combined degrees in the Faculty of Engineering and Information Technologies shall be:
2.1 Bachelor of Engineering/Bachelor of Arts (BE/BA)
2.2 Bachelor of Engineering/Bachelor of Commerce (BE/BCom)
2.3 Bachelor of Engineering/Bachelor of Laws (BE/LLB)
2.4 Bachelor of Engineering/Bachelor of Medical Science (BE/BMedSc)
2.5 Bachelor of Engineering/Bachelor of Science (BE/BSc) [or Advanced Science or Advanced Mathematics]
2.6 Bachelor of Engineering/Bachelor of Design in Architecture (BE/BDesArch)
2.7 Bachelor of Information Technology/Bachelor of Commerce (BIT/BCom)
2.8 Bachelor of Information Technology/Bachelor of Arts (BIT/BA)
2.9 Bachelor of Information Technology/Bachelor of Science (BIT/BSc)
2.10 Bachelor of Information Technology/Bachelor of Medical Science (BIT/BMedSc)

BACHELOR OF ENGINEERING
1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all coursework courses, and the relevant Faculty Resolutions.

2. Specialisations
2.1 The BE degree is awarded in the following specialisations:
2.1.1 *School of Aerospace, Mechanical and Mechatronic Engineering*
2.1.1.1 Aeronautical Engineering
2.1.1.2 Aeronautical Engineering (Space)
2.1.1.3 Mechanical Engineering
2.1.1.4 Mechanical Engineering (Biomedical)
2.1.1.5 Mechanical Engineering (Space)

2.1.1.6 Mechatronic Engineering
2.1.1.7 Mechatronic Engineering (Space)
2.1.2 *School of Chemical and Biomolecular Engineering*
2.1.2.1 Chemical and BiomolecularEngineering
2.1.3 *School of Civil Engineering*
2.1.3.1 Civil Engineering
2.1.3.2 Civil Engineering (Construction Management)
2.1.3.3 Civil Engineering (Environmental)
2.1.3.4 Civil Engineering (Geomechanics)
2.1.3.5 Civil Engineering (Structures)
2.1.3.6 Project Engineering and Management (Civil)
2.1.4 *School of Electrical and Information Engineering*
2.1.4.1 Computer Engineering
2.1.4.2 Electrical Engineering
2.1.4.3 Electrical Engineering (Power Engineering)
2.1.4.4 Software Engineering
2.1.4.5 Telecommunications Engineering

3. Requirements for the degree at pass level

3.1. To qualify for the award of the BE degree at pass level, a student must:
3.1.1 complete successfully units of study giving credit for a total of 192 credit points;
3.1.2 complete the core requirements of an Engineering specialisation as shown in the Faculty Engineering Specialisation Tables; and
3.1.3 satisfy the requirements of all other relevant By-Laws, Rules and Resolutions of the Faculty and the University.

4. Requirements for the degree with honours

4.1 To qualify for the award of the BE degree with honours, a student must:
4.1.1 complete the requirements for the pass degree;
4.1.2 complete the honours requirements published in the Resolutions of the Faculty of Engineering and Information Technologies relating to the BE degree.

BACHELOR OF INFORMATION TECHNOLOGY

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all undergraduate courses, and the relevant Faculty Resolutions.

2. Requirements for the pass degree

2.1 To qualify for the award of the pass degree students must:
2.1.1 complete successfully units of study giving credit for a total of 192 credit points;
2.1.2 complete an IT stream in at least one of the following areas:
2.1.2.1 Computer Science,
2.1.2.2 Information Systems; and
2.1.3 satisfy the requirements of all other relevant By–Laws, Rules and Resolutions of the University.

3. Requirements for the honours degree

3.1 To qualify for the award of the honours degree students must complete the honours requirements published in the Faculty resolutions relating to the course.

BACHELOR OF COMPUTER SCIENCE AND TECHNOLOGY

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all undergraduate courses, and the relevant Faculty Resolutions.

2. Requirements for the pass degree

2.1 To qualify for the award of the pass degree students must:
2.1.1 complete successfully units of study giving credit for a total of 144 credit points; and
2.1.2 complete an IT stream in at least one of the following areas:
2.1.2.1 Computer Science,
2.1.2.2 Information Systems; and

2.1.3 satisfy the requirements of all other relevant By–Laws, Rules and Resolutions of the Faculty and the University.

3. Requirements for the honours degree

3.1 After completing the requirements for a BCST degree or a pass degree from the Faculty of Science or a degree equivalent to the BCST from another institution, students can apply for enrolment in the Honours degree. A successful completion of this course will lead to the award of BCST(Honours)

3.2 The normal duration of the Honours course is 1 year.

3.3 Entry, progression and completion requirements for the BCST(Honours) program are published in the Engineering and Information Technologies Faculty resolutions relating to the course.

BACHELOR OF COMPUTER SCIENCE AND TECHNOLOGY(ADVANCED)

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all undergraduate courses, and the relevant Faculty Resolutions.

2. Requirements for the pass degree

2.1 To qualify for the award of the pass degree students must:

2.1.1 complete successfully units of study giving credit for a total of 144 credit points; and

2.1.2 complete an IT stream in at least one of the following areas:

2.1.2.1 Computer Science,

2.1.2.2 Information Systems; and

2.1.3 maintain an average mark of 65% in units of study for each year of enrolment.

2.1.3.1 students failing to attain this progress requirment will be transferred to the BCST standard degree program.

2.1.4 satisfy the requirements of all other relevant By–Laws, Rules and Resolutions of the Faculty and the University.

3. Requirements for the honours degree

3.1 After completing the requirements for a BCST(Advanced) degree or an advanced degree from the Faculty of Science or a degree equivalent to the BCST(Advanced) from another institution, students can apply for enrolment in the Honours degree. A successful completion of this course will lead to the award of BCST(Advanced)(Honours)

3.2 The normal duration of the Honours course is 1 year.

3.3 Entry, progression and completion requirements for the BCST(Advanced)(Honours) program are published in the Engineering and Information Technologies Faculty resolutions relating to the course.

BACHELOR OF ENGINEERING COMBINED AND DOUBLE DEGREES

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all coursework courses, and the relevant Faculty Resolutions.

2. Combined degrees

2.1 The BE is available in the following combined degree programs.

2.1.1 Bachelor of Engineering/Bachelor of Arts (BE/BA)

2.1.2 Bachelor of Engineering/Bachelor of Commerce (BE/BCom)

2.1.3 Bachelor of Engineering/Bachelor of Laws (BE/LLB)

2.1.4 Bachelor of Engineering/Bachelor of Medical Science (BE/BMedSc)

2.1.5 Bachelor of Engineering/Bachelor of Science (BE/BSc)

2.1.6 Bachelor of Engineering/Bachelor of Design in Architecture (BE/BDesArch)

2.2 The BE is available to be taken in a double degree combination with Bachelor of Science (BE/BSc)

3. Requirements for the degrees at pass level

3.1 To qualify for the award of the degrees at pass level, a student must:

3.1.1 for the BE/BA,BE/BCom,BE/BMedSc, BEDesArch and BE/BSc combined degrees and the BE/BSc double degree, complete successfully units of study giving credit for a total of 240 credit points;

3.1.2 for the BE/LLB combined degree, complete successfully units of study giving credit for a total of 288 credit points.

3.1.3 complete the core requirements of an Engineering specialisation as shown in the Faculty Engineering Specialisation Tables; and

3.1.4 must complete the requirements published in the Resolutions of the Faculty of Engineering and Information Technologies and in the Joint Resolutions of the Faculty of Engineering and Information Technologies and the Faculties of Arts, Economics and Business, Law, Architecture and Planning or Science, as the case may be, as well as all other relevant By-Laws, Rules and Resolutions of the University.

4. Requirements for the degrees with honours

4.1 To qualify for the award of the BE degree with honours as part of a combined degree, a student must:

4.1.1 complete the requirements for the pass degree;

4.1.2 complete the honours requirements published in the Resolutions of the Faculty of Engineering and Information Technologies relating to the BE combined degrees.

4.2 To qualify for the award of Honours in the partner degree, either BA, Bcom, BdesArch, LLB, BMedSc or BSc, a student must

4.2.1 complete the requirements pertaining to Honours published in in the Joint Resolutions of the Faculty of Engineering and Information Technologies and the Faculties of Arts, Economics and Business, Law, Architecture and Planning or Science, as the case may be.

BACHELOR OF INFORMATION TECHNOLOGY COMBINED DEGREES

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all coursework courses, and the relevant Faculty Resolutions.

2. Combined degrees

2.1 The BIT is available in the following combined degree programs.

2.1.1 Bachelor of Information Technology/Bachelor of Arts (BE/BA)

2.1.2 Bachelor of Information Technology/Bachelor of Commerce (BE/BCom)

2.1.4 Bachelor of Information Technology/Bachelor of Medical Science (BE/BMedSc)

2.1.5 Bachelor of Information Technology/Bachelor of Science (BE/BSc)

3. Requirements for the degrees at pass level

3.1 To qualify for the award of the degrees at pass level, a student must:

3.1.1 for the BIT/BA, BIT/BCom, BIT/BMedSc and BIT/BSc combined degrees , complete successfully units of study giving credit for a total of 240 credit points;

3.1.2 complete the core requirements of an Informatio Technology specialisation as shown in the Faculty Engineering and Information Technologies Specialisation Tables; and

3.1.4 must complete the requirements published in the Resolutions of the Faculty of Engineering and Information Technologies and in the Joint Resolutions of the Faculty of Engineering and Information Technologies and the Faculties of Arts, Economics and Business or Science, as the case may be, as well as all other relevant By-Laws, Rules and Resolutions of the University.

4. Requirements for the degrees with honours

4.1 To qualify for the award of the BIT degree with honours as part of a combined degree, a student must:

4.1.1 complete the requirements for the pass degree;

4.1.2 complete the honours requirements published in the Resolutions of the Faculty of Engineering and Information Technologies relating to the BIT combined degrees.

4.2 To qualify for the award of Honours in the partner degree, either BA, Bcom, BMedSc or BSc, a student must

4.2.1 complete the requirements pertaining to Honours published in in the Joint Resolutions of the Faculty of Engineering and Information Technologies and the Faculties of Arts, Economics and Business, or Science, as the case may be.

SECTION 1 – APPENDIX 4: RESOLUTIONS OF THE FACULTY

Resolutions of the Faculty

Additional Resolutions of the Faculty covering the award of Information Technology and Arts combined degree.

Resolutions related to admission, units of study, progression, assessment, credit, cross-institutional study, advanced standing and completion for all students enrolled in a degree in the Faculty of Engineering and Information Technologies are published in section 2 of the faculty handbook.

Combined Degree Specific Resolutions.

Bachelor of Information Technology and Bachelor of Arts Combined Degree (BIT/BA)

6. 1. Requirements for the pass BIT and BA awards

1.1 Candidature for this combined degree program is a minimum of 5 years of full-time study.
1.2 Candidates qualify for the two awards from the combined degree program (a separate testamur being awarded for both the BIT and the BA) by completing the following:
1.2.1 The units of study prescribed for the BIT specialisation undertaken, available specialisations are:
1.2.1.1 Computer Science and
1.2.1.2 Information Systems;
1.2.1.3 these units of study are set out in the tables appended to the Resolutions relating to the BIT degree.
1.2.2 BA units of study totalling at least 84 credit points, of which at least 54 must be Second or Third Year credit points from Part A of the *Table of units of study* for the BA degree, including a major as defined in the resolutions relating to the BA degree.

7. 2. Requirements for the BIT and BA awards with Honours
8. 2.1 BIT with Honours
2.1.1 On completion of the requirements for the combined degrees, a student may qualify for the award of BIT with Honours in accordance with the requirements set out in the Resolutions of the Faculty of Engineering and Information Technologies relating to the BIT degree.
2.2 BA with Honours
9. 2.2.1 On completion of the requirements for the combined degrees, a student may be qualified to enrol in Honours in the Bachelor of Arts. To qualify for the award of the BA with Honours, a student must complete successfully an additional year of study (the Honours year), as specified in the Faculty of Arts Handbook.
10.
11. 3. Units of study
12. 3.1 The units of study, which may be taken for the combined Bachelor of Information Technology and Bachelor of Arts program, are set out in the Resolutions of the Faculty of Engineering and the Faculty of Arts respectively.
3.2 The Faculty Resolutions specify:
3.2.1 credit point values;
3.2.2 corequisites/prerequisites/assumedlearning/assumed knowledge; and
3.2.3 any special conditions.
3.3 Candidates may not enrol in any unit of study which is substantially the same as one they have already passed (or in which they are currently enrolled).

13. 4. Supervision of the degrees
4.1 Students will be under the general supervision of the Faculty of Engineering and Information Technologies for enrolment and administrative matters.
4.2 Students will be under the supervision of the Faculty of Arts in relation to progression and eligibility of award of the BA component and will be under the supervision of the Faculty of Engineering and InformationTechnologies in relation to the BIT component.

4.3 The Deans of the Faculty of Arts and the Faculty of Engineering and Informatin Technologies shall jointly exercise authority in any matter concerning the combined course not otherwise dealt with in these resolutions.

14.

15. 5. Transfer arrangements

5.1 A student may abandon the combined BIT/BA course and elect to complete either the BIT or BA degree in accordance with the resolutions governing that degree.

SECTION 1 – APPENDIX 5: LIBRARY IMPACT STATEMENT

I have examined the Library needs related to the proposal and certify that existing Library holdings, staffing, services and accommodation are, or will be, **adequate/inadequate** to cover the demands that are inherent in it.
(If there are any concerns about library holdings, please address these.)

....
for the University Librarian **Date**

Further comments:

Holdings:

Services/Staffing:

SECTION 2: FEE REVIEW AND FEE SETTING

Faculty: **Engineering and Information Technologies**

Department/School presenting the proposal: **Information Technologies**

Faculty Contact person and/or: A/Prof Sanjay Chawla **Ext. No:** 13516
Academic Proponent **Email:** chawla@it.usyd.edu.au

2.1.1 Type of proposal: **New** ☒
Amended ☐ **Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.**
Deletion ☐

2.1.2 Type of course: **Undergraduate** ☒
Postgraduate coursework ☐
Postgraduate research ☐

2.1.3 Name of award course(s)
Name of **new** award course:
Bachelor of Information Technology/Bachelor of Arts

2.1.4 Abbreviated name
BIT/BA

2.1.5 Date of introduction or deletion
Introduced: Year 2009 Semester 1

2.1.6 Fee review and Fee-setting

2.1.6.1 Fees for Undergraduate award course:

Undergraduate award course	**Current fee band and fees** (per 1 EFTSU per annum)		**Proposed increase** (%)		**Proposed fee band and fees** (per 1 EFTSU per annum)	
	Local students	International students	Local	Int'l	Local students	International students
As for BIT	21 792	23 952				

PROPOSED BY:

Nominated Faculty Officer **Dean of Faculty (or Delegate)**

APPROVAL:

Provost and Deputy Vice-Chancellor/Vice-Chancellor

SECTION 3: COURSE INFORMATION FORM AND MARKETING PLAN

PART 1: COURSE INFORMATION FOR FLEXSIS

Faculty: **Engineering and Information Technology**

Department/School presenting the proposal: **Information Technology**

Faculty Contact person and/or: **A/Prof Sanjay Chawla** **Ext. No:** 13516
Academic Proponent **Email:** chawla@it.usyd.edu.au

3.1.1 Type of proposal: **New** ☒
Amended ☐ **Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.**
Deletion ☐

3.1.2 Type of course: **Undergraduate** ☒
Postgraduate coursework ☐
Postgraduate research ☐

3.1.3 Name of award course(s)
Name of **new** award course:
Bachelor of Information Technology/Bachelor of Arts

3.1.4 Abbreviated name

BIT/BA

3.1.5 Date of introduction or deletion
Introduced: Year 2009 Semester 1

3.1.6 Course code
Course code of existing award course for amendment or deletion:

3.1.7 CRICOS code
CRICOS code of existing award course for amendment or deletion:

3.1.8 Short degree description (e.g. for the UAC Guide):
B Information Technology/B Arts

This course allows students to obtain an Information Technology degree and further enhance their career options by adding skills from humanities, social sciences and languages. It allows to complete one major and one minor study in Arts areas such as linguistics, anthropology, cultural studies, film studies, digital cultures or a language - – refer to 511200 B Arts for the complete list. The B Information Technology degree is accredited by the Australian Computer Society. Honours is available within the BIT, or as an additional year in the B Arts, to meritorious students.

3.1.9 Full degree description (e.g. for Faculty handbook):

The Bachelor of Information Technology/Bachelor of Arts is a 5-year award course. Students must complete successfully units of study that total at least 240 credit points which include the program of units of study set out in the requirements relating to the Bachelor of Information Technology Major (Computer Science or Information Systems) and at least 84 credit points in Arts units of stud, of which at least 54 must be Second or Third Year credit points from Part A of the *Table of units of study* for the BA degree, including a major as defined in the resolutions relating to the BA degree, and including PHIL1012 Introductory Logic.

3.1.10 Level of award:

Higher doctorate	☐
Doctor of Philosophy (PhD)	☐
Doctorate by research and advanced coursework	☐
Master's degree by research	☐
Master's degree by coursework	☐
Graduate Diploma	☐
Graduate Certificate	☐
Bachelor's degree	☒
Advanced Diploma	☐
Associate Diploma	☐
Diploma	☐
Certificate	☐

3.1.11 Is this an Honours course? Yes ☒ No ☐
Honours is available in both BIT and/or BA.

3.1.12 If the proposal is for a new award course, please indicate if the new course is the result of new resolutions for an existing course? Yes ☒ No ☐

3.1.13 Name of award that will be conferred upon completion of course:
Bachelor of Information Technology/Bachelor of Arts

3.1.14 If the proposal is for a new award course, please indicate which category the proposed course should be allocated to according to the DEST Field of Education and Discipline Area (available from the Courses and Fees Toolkit):

DEST Field of Education	02 and 09
DEST Discipline Area	TBA

3.1.15 Credit points required for the award: 240

3.1.16 Location/campus for student attendance:

Camperdown & Darlington	☒	Camden	☐	Cumberland	☐
Mallett Street	☐	St James	☐	College of the Arts	☐
Conservatorium	☐	Offshore	☐	please specify	
Hospital (please specify)					

3.1.17 Are students enrolling in the proposed award course subject to:

Criminal Record Check	Yes	☐	No	☒
Prohibited Employment Declaration	Yes	☐	No	☒
Health Records & Privacy Information Declaration	Yes	☐	No	☒

3.1.18 Prohibitions:
Prohibitions apply at the unit of study level.

3.1.19 Articulation pathway (if applicable):

Not applicable. However, students may complete with the BIT or BA if they have completed the requirements for each separate degree course.

3.1.20 Units of study offered in proposed award course:

(a). Existing units of study

138cp (23 UoS) from the Faculty of Engineering and IT

		CS Stream	IS Stream
IT core: 66cp (CS) and 72cp (IS)	1	ENGG1805 Professional Engineering and IT (s1)	
	1	INFO1103 Intro to Programming (s1& s2) or INFO1903 Informatics (s1)	
	1	INFO1105/1905 Data Structures (s2)	
	1	INFO2120/2820 Database Systems 1 (s1)	
	1	INFO2110 System Analysis and Modelling (s2)	
	1	INFO3402 Management of IT Projects and Systems (s1)	
	2	INFO3600 Major Development Project INFO3600 (s2, 12 cp)	
	1	ELEC1601 Foundations of Computer Systems (s2)	INFO1003 Foundations of Information Technology (s1 & s2)
	1	COMP2007 Algorithms and Complexity (s2)	ISYS2140 Information Systems (s1)
	1	COMP2129 Operating Systems and Machine Principals (s1)	INFO2315 Introduction to Information Security (s2)
	1	Senior IT UoS from selected core (3000)	ISYS3401 Analytical Methods (s1)
IT selected core and recommended electives: 60cp (CS) and 54cp (IS)	1	Senior IT UoS from selected core or recommended electives (3000 level)	
	8	Coursework Option: 8 UoS from BIT 4th year selected core (4000 or 5000 level) Honours Option: INFO4990, INF04991, INFO4992 (12 cp) + 4 UoS from 4000 or 5000 level	
12 cp IT elective	2		

18 cp (5 UoS typically) from the Faculty of Science (Mathematics and Statistics)

SIT recommends 4 junior 3cp UoS and 1 intermediate 6cp UoS, i.e.:

12 cp	4	MATH1001, MATH1002, MATH1003, MATH1004, MATH1005
6 cp	1	MATH2069, MATH2063, STAT2012

84 cp (14 UoS) from the Faculty of Arts

Similarly to the BE/BA degree:

8 36cp for a major in an Arts subject area
9 48 cp of Arts UoS from Table A of the Arts handbook (junior UoS which are prereqs for the senior UoS of the Arts major or Arts electives)
10 at least 54cp of the 84 cp must be 2d or 3d year Arts units of study from Table A.

Example 1

BIT Honours (major in Information Systems)+ BA (major in Linguistics +focus on Japanese)

	UoS 1	UoS 2	UoS 3	UoS 4
Y1;S1	Intro to Programming INFO1103	Professionalism in Engineering and IT ENGG 1805	Differential Calculus MATH1001 & Linear Algebra MATH1002	Structure of Language LNGS1001
Y1;S2	Data Structures INFO1105	Foundations of IT INFO1003	Discrete Maths MATH1004 & Statistics MATH1005	Language and Social Context LNGS1002
Y2;S1	Information Systems ISYS2140	Database Systems 1 INFO2120	Introduction to Logic PHIL1012	Phonetics and Phonology LNGS2601
Y2;S2	Introduction to Information Security INFO2315	Systems Analysis and Modelling INFO2110	Syntax LNGS2602	Discourse Analysis LNGS2604
Y3;S1	Management of IT Projects and Systems INFO3402	Analytical Methods ISYS3041	Functional Grammar LNGS2603	Japanese 1 JPNS1001
Y3:S2	Human Computer Interaction INFO3315	Statistical Tests STAT2012	IT elective	Japanese 2 JPNS1002
Y4:S1	COMP4046 Statistical Natural Language Processing	Data Mining COMP5318	Computer Applications in Linguistics LNGS2613	Japanese 3 JPNS2611
Y4:S2	Major Development Project INFO3600	Major Development Project INFO3600	Advanced Data Models COMP5338	Japanese 4 JPNS2612
Y5;S1	Research Methods INFO4990	Research Thesis A INFO4991	Japanese Culture JPNS2672	Knowledge Management Systems ISYS4050
Y5:S2	Research Thesis B INFO4992	Research Thesis B INFO4992	Japanese Sociolinguistics JPNS2672	IT elective

Notes:

18 Counting for a major in Linguistics are JPNS2672 and the 5 second year LNGS units

Example 2

BIT coursework (major in Computer Science)+ BA (major in Digital Cultures and focus on Linguistics)

	UoS 1	UoS 2	UoS 3	UoS 4
Y1;S1	Intro to Programming INFO1103	Professionalism in Engineering and IT ENGG 1805	Differential Calculus MATH1001 & Linear Algebra MATH1002	Technocultures ARIN2600
Y1;S2	Data Structures INFO1105	Foundations of Computer Systems ELEC1601	Discrete Maths MATH1004 & Statistics MATH1005	Web Production ARIN2610
Y2;S1	Operating Systems and Machine Principles COMP2129	Database Systems 1 INFO2120	Introduction to Logic PHIL1012	Cyberworlds ARIN2620
Y2;S2	Algorithms and Complexity COMP2007	Systems Analysis and Modelling INFO2110	Language and Social Context LNGS1002	Digital Arts ARIN3640
Y3;S1	Management of IT Projects and Systems INFO3402	Artificial Intelligence COMP3308	Structure of Language LNGS1001	Computer Games and Simulation ARIN2630
Y3:S2	Human Computer Interaction INFO3315	Statistical Tests STAT2012	Syntax LNGS2602	Researching Digital Cultures ARIN3640
Y4:S1	COMP4046 Statistical Natural Language Processing	Data Mining COMP5318	Computer Applications in Linguistics LNGS2613	Phonetics and Phonology LNGS2601
Y4:S2	Major Development Project INFO3600	Major Development Project INFO3600	Advanced Data Models COMP5338	IT elective
Y5;S1	Enterprise Scale Software Development COMP5348	Computational Geometry COMP4045	Multimedia Storage, Retrieval and Delivery COMP5425	Cross-cultural Communication LNGS2617
Y5:S2	Information Visualisation COMP4048	Advanced Network Technology COMP5416	IT elective	Discourse Analysis LNGS2604

Notes:

19 Counting for a major in Digital Cultures are the 6 ARIN units and LNGS2613 (only 6 of them are needed)

(b). New units of study

None.

SECTION 3 : COURSE INFORMATION FORM AND MARKETING PLAN

PART 2: COURSE INFORMATION FOR UNIVERSITY'S UNDERGRADUATE AND POSTGRADUATE COURSE DATABASE (FOR MARKETING PURPOSES)

3.2.1 UAC code: TBA (Undergraduate courses only)

3.2.2 CRICOS code: TBA

3.2.3 Career opportunities: Examples include IT careers in multi-national companies, careers in Computational Linguistics and media, consulting for companies and bridging the gap between Arts and IT.

3.2.4 Areas of study: Computer Science, Information Systems, and all subject areas within the faculty of Arts, e.g. Ancient History, Anthropology, Chinese studies, Linguistics, Japanese, Film Studues, etc.

3.2.5 Assumed knowledge: Mathematics or HSC Mathematics Extension 1. Other assumed knowledge depends on first year subjects selected.

3.2.6 Minimum education requirements:

Year 12 (senior secondary certificate) or equivalent	☒	Bachelor's degree (pass)	☐
		Bachelor (Hons)	☐
No minimum education	☐	Graduate Certificate	☐
Mature background	☐	Graduate Diploma	☐
Relevant employment experience	☐	Master's degree	☐

Additional information:

Honours is available within the BIT, or as an additional year in the B Arts, to meritorious students.

The BIT/BA has been developed after consultation with industry to ensure graduates are equipped for the changes demanded in these areas. This 5-year combined degree provides students with a structured program of study in Information Technology and Arts. All students undertake core units in areas including computer science, information systems, and selected Arts areas.

3.2.7 If the proposal is for a Postgraduate award course, please indicate the course method:

Coursework	☐	Coursework with research pathway	☐
Research	☐		

3.2.8 UAI (for UG only)

2008	95.6
2007	96.6
2006	95.15

3.2.9 Additional admission selection criteria:
Candidates with considerable experience in computer programming may apply for entry by submitting a portfolio of their work to the School of Information Technologies, as well as submitting a UAC application form. Portfolios will be taken into consideration if the candidate's UAI is slightly below the cut-off. The deadline for receiving the portfolio is 2 January 2009. If the candidates do not submit a portfolio by the closing date they will be considered solely on the

basis of their UAI or equivalent. For further information or a portfolio entry application form, call the School on (02) 9351 3423 or visit www.it.usyd.edu.au

3.2.10 If the course is offered to international students please complete the following:

UAI International (for international students only): 95.6 (Undergraduate courses only)

Other international student entry requirements:

3.2.11 If the proposal is for a Postgraduate award course, please indicate the application closing date:

For local students, closing date for applications is

For international students, closing date for applications is

3.2.12 Will mid-semester intake be available for:

Commonwealth-supported students	Yes	☐	No	☒
Local fee-paying students	Yes	☐	No	☒
International fee-paying students	Yes	☐	No	☒

SECTION 3 : COURSE INFORMATION FORM AND MARKETING PLAN

PART 3: MARKETING PLAN

3.3.1 Marketing plan and strategy

The proposed award course will be marketed to prospective students via the UAC Guide, the International Office publications and website, and through student recruitment events targeting high school students conducted by the university, the faculty, and the school, e.g. SydneyUni Live, Information Day, meetings with career advisers and teachers etc.

APPROVALS

Nominated Faculty Officer **Dean of Faculty (or Delegate)**

SECTION 4: INTERNATIONAL STUDENT ADMINISTRATION REQUIREMENTS

Faculty: **Engineering and Information Technologies**

Department/School presenting the proposal: **Information Technologies**

Faculty Contact person and/or: A/Prof Sanjay Chawla **Ext. No:** 13516

Academic Proponent **Email:** chawla@it.usyd.edu.au

4.1.1 Type of proposal: **New** ☒
Amended ☐ **Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.**
Deletion ☐

4.1.2 Type of course: **Undergraduate** ☒
Postgraduate coursework ☐
Postgraduate research ☐

4.1.3 Name of award course(s)
Name of **new** award course:
Bachelor of Information Science/Bachelor of Arts

4.1.4 Abbreviated name
BIT/BA

4.1.5 Date of introduction or deletion
Introduced: Year 2009 Semester 1

4.1.6 Course code
Course code of existing award course for amendment or deletion:

4.1.7 CRICOS code
CRICOS code of existing award course for amendment or deletion:

4.1.8 Marketing plan and strategy

The proposed award course will be marketed to prospective students via the UAC Guide, the International Office publications and website, and through student recruitment events targeting high school students conducted by the university, the faculty, and the school, e.g. SydneyUni Live, Information Day, meetings with career advisers and teachers etc.

4.1.9 Availability of course

Will international students be able to enrol full-time?
Yes ☒ No ☐

4.1.10 Mode of study

Will international students be able to study the proposed course in "face-to-face" mode for at least 75% of the time each semester?
Yes ☒ No ☐

4.1.11 Incidental (ancillary) fees

Will the proposed course incur any compulsory costs other than tuition fees and compulsory subscriptions?
Yes ☒ If yes please indicate the amount Students are required to purchase course notes and text books where required. Additional cost is estimated at $80-100 per year of candidature.
No ☐

4.1.10 Commencement semester

Indicate whether entry to the course is possible in each semester.
SEM1 ONLY ☒ SEM1or 2 ☐ SEM2 ONLY ☐
If entry is permissible in Semester 2, please indicate whether subject choice will be restricted and whether the duration of the course will necessarily increase?

4.1.11 English language requirements

Will the minimum English language requirement for the proposed course differ from the usual requirements (i.e. overall IELTS score of 6.5 with a minimum of 6.0 in each band)?
Yes ☐ If yes please indicate IELTS equivalent
No ☒

16. APPROVALS

……

17. Dean or delegate

The Proposed Course is suitable for CRICOS registration and International Office processing.

.....
Director International Office

SECTION 5: OFFICE OF STRATEGY IMPLEMENTATION AND SUSTAINABILITY PLANNING

Faculty: **Engineering and Information Technology**

Faculty Contact person and/or: A/Prof Sanjay Chawla **Ext. No:** 13516
Academic Proponent **Email:** irena@it.usyd.edu.au

5.1.1 Type of proposal: **New** ☒
Amended ☐ **Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.**
Deletion ☐

5.1.2 Type of course: **Undergraduate** ☒
Postgraduate coursework ☐
Postgraduate research ☐

5.1.3 Name of award course(s)
Name of **new** award course:
Bachelor of Information Technology/Bachelor of Arts

5.1.4 Abbreviated name

BIT/BA

5.1.5 Date of introduction or deletion
Introduced: Year 2009 Semester 1

5.1.6 Estimated percentage distribution of load across departments in one or more faculties:

Faculty	Department	Estimated percentage of load
Engineering and Information Technology	**IT and EIE**	**57.5%**
Arts	**various**	**35%**
Science	**Mathematics and Statistics**	**7.5%**

5.1.7 Number of semesters required to complete the course in minimum time **10**

5.1.8 Estimated student enrolments (i.e. head count)

Estimated student enrolments		2009	2010	2011
Commonwealth-supported places	Full-time	15	20	25
	Part-time			
Local fee-paying	Full-time	5	5	5
	Part-time			
International fee-paying	Full-time	5	7	10
	Part-time			
Total student enrolments		20	32	40

5.1.9 For undergraduate degrees only, please indicate the expected 'carry-on' rate from one academic year to the next. 1005
e.g. the number of students in first year in year 'n' expected to re-enrol in second year in year 'n+1'.

5.1.10 **IMPORTANT** The University operates within a fixed target for Commonwealth-supported Place (CSP) load. Any new course proposals which include intakes of CSP (HECS) students must be accompanied by an indication of a corresponding reduction in the CSP intake to another degree of similar duration offered within the same Faculty.
Details of proposed reduction:

BIT/BA and BE/BA cohort intake will be balanced across the existing quota for BE/BA.

APPROVALS

Nominated Faculty Officer **Dean of Faculty or delegate**

Summary of Focus Group for Proposed BIT/BA Degree, School of IT, 11 February 2008

BACKGROUND

In response to the success of the new 5-year combined BIT/BCommerce degree, the School wishes to build on the demand for combined IT degrees by introducing the combined BIT/Bachelor of Arts degree. As with the BIT/BCom, the BIT/BA degree is intended to provide a small group of 10-20 students with a 95-plus UAI the opportunity to acquire in-depth knowledge and skills in IT as well as a specialisation in any Arts area, for example, archaeology, linguistics or film studies.

PURPOSE OF THE FOCUS GROUP

The group was constituted to help ascertain the potential interest of students in enrolling in the proposed course.

GROUP MEMBERS

A doctoral student, a recent high-achieving honours graduate, a current honours student and an undergraduate student were asked to comment on the proposed degree and were given a sample enrolment structure outline for reference.

QUESTIONS AND SUMMARIES OF RESPONSES

18. If you were entering an undergraduate degree program now, what would be attractive to you about this degree and why?

One participant, who studied Japanese in high school, remarked that enrolling in his IT degree effectively limited opportunities for him to pursue Japanese at university level. The BIT/BA degree would have allowed him to continue his language studies unimpeded.

“I would have loved this degree, I would have wanted to go through and do Japanese.”

“The nice thing about this is if you went through school and you did German and you really liked German, then you can still continue with a couple of different things [in this degree].”

“There’s a lot more flexibility to this degree [than the other combined BIT degrees].”

“One nice thing is that Arts has a reputation as something where you’re hardly ever on campus, you have few contact hours, whereas with science, you’re here on campus all the time and you never get out of the lab, so to have this degree where you’re not completely locked in either way – you’re here on campus, but at the same time there’s a little bit of freedom for people who might not want to commit either way.”

“I see a lot of people who end up in Arts degrees; they want to get a uni degree but they have no idea what they want to do, but they’ll continue, say, history at uni, but at the same time they recognise that’s not the path of glory, that’s the harder way to end up with job prospects at the end. So this degree may give them the opportunity to pursue what they’re interested in as well as something that will help them get a job at the end of the degree.”

19. What would you want to know about before starting the degree?

The participants said they would want to know that after they graduate, they would be able to find good jobs relevant to their qualifications.

20. What is not in the degree that you would like to see there? What would you want to happen during the course?

"There doesn't seem to be a lot keeping the Arts and IT sides together until you get to your fourth year, other than that they're very distinct from each other. If you were doing the degree as suggested – half and half – you'd be constantly switching between IT and, say, linguistics. There's not a lot to tie it together through the degree."

21. On completing such a program, what would you see as your likely career path?

"A fairly generic IT job, working internationally or for international companies and working on programs that run in five different languages."

"Working with accessibility, HCI [human-computer interaction] things, being a consultant for companies using your Arts background with your IT knowledge to engage with IT people."

"There are a lot of industries, like the media, that are demanding IT expertise, but it's just so hard to bridge the gap between their industry and IT."

"A lot of things are moving online, and being able to understand IT systems is very useful."

22. SUMMARY OF MAIN THEMES AND QUERIES

23. Portfolio entry

A participant asked whether portfolio entry would still be available for this combined degree and the other combined BIT degrees.

24. The relationship between IT and Arts disciplines

It was remarked that IT has many applications in traditionally non-IT related areas, and that, conversely, some Arts areas in particular mesh very well with IT, such as sociology, linguistics, and media and communications. It was suggested that these linkages be emphasised in marketing this degree.

"It would be useful to champion a few very obvious couplings, like film studies or media and communications, these are obvious strong couplings with IT."

25. Advanced Arts

One participant commented that being able to complete the Advanced Arts stream would be attractive.

Elective units

Some participants asked about the type of elective units available in this degree, whether IT or Arts or other units.

26. The appeal of studying two very different disciplines

Two participants mentioned that undertaking a degree that addressed the vocational aspects of IT while being able to study something completely different and 'fun', such as a language, was very attractive. Another participant, however, commented that the perceived disparity between IT and Arts and the subjects undertaken in the BIT/BA might deter students from considering this degree.

27. Contact hours

One participant remarked that this degree should have a guide to how many hours you'll spend on campus, and although the group agreed that while this would be helpful, it was also acknowledged that with the variety of units available, contact hours could vary significantly from student to student.

Optiver

DERIVATIVES TRADING

12 February 2008

A/Professor Sanjay Chawla
Head, School of IT
University of Sydney
Sydney, NSW

Dear Prof. Chawla,

Optiver Australia supports the proposal to introduce a new degree combination, where students can study the Bachelor of Information Technology and the Bachelor of Arts as a combined degree.

The proposed BIT/BA will produce graduates who would be valuable to us in operating our business globally.

We support the University of Sydney on this initiative.

Yours sincerely,

Irene Frisby
Human Resource Manager

ABN 98 852 481 234 ACN 077 364 366
Royal Naval House, 30 Grosvenor Street, Sydney NSW 2000
PO Box R398, Royal Exchange, NSW 1225
Tel: (02) 9275 6000 Fax: (02) 9275 6150

6 February 2008

A/Professor Sanjay Chawla

Head, School of IT

University of Sydney

Sydney, NSW

Dear Prof. Chawla,

I write to express my support for the proposal to introduce a new degree combining Bachelor of Information Technology and the Bachelor of Arts degrees.

There was no such degree at Sydney when I took my B.A. with Honours in Computer Science in 1982; this would have been ideal for what I did, studying languages, mathematics and informatics.

I went on to use all of these areas in my later career, such as working as a research scientist at Bell Laboratories in New Jersey, acting as a public policy advocate, and writing theatre criticism. I'm sure that I am not unusual in having a combination of interests in technology, literature and history; many other students would have liked a degree that reflects such a diversity.

I support the University of Sydney on this initiative.

Yours sincerely,

Jason Catlett, Ph.D.

Director
Triumfa Pty Ltd

22 February 2008

A/Professor Sanjay Chawla
Head, School of IT
University of Sydney
Sydney, NSW

Dear Prof. Chawla,

I am writing to express my support for the proposed combined Bachelor of Information Technology / Bachelor of Arts degree.

I have just completed a Bachelor of Arts (Languages) at the University of Sydney majoring in Linguistics, German and Digital Cultures, and have now enrolled in the Graduate Diploma in Computing, with a view to then completing a Masters of IT also at Sydney University. I am interested in Computational Linguistics, and was disappointed that I did not have as many options as hoped to combine my linguistics studies within the Arts degree with complementary IT knowledge.

The combined BIT/BA would have been ideal for me, and will be ideal for many similar students. Learning linguistics and IT concurrently will allow students to better understand what knowledge and skills they require in order to reach their goals. I feel that the combined degree will also offer students a more direct path, and therefore will attract many students who may otherwise not realise their goals.

I wholeheartedly support the University of Sydney on this planned combined degree.

Yours sincerely,

Nicky Ringland

The University of Sydney

Schoo
A
r

t History & Theory; Digital Cultures; Australian Studies; English; Linguistics; Media & Communications; Medieval Studies; Museum Studies, PARADISEC; Performance Studies; Studies in Religion
Faculty of Arts
NSW 2006 AUSTRALIA

Chris Chesher
Director, Digital Cultures Program
Senior Lecturer

John Woolley Building (A20)
Telephone +61 2 9036 6173
Facsimile +61 2 9351 2434
Mobile 0404 095 480
chris.chesher@arts.usyd.edu.au

A/Professor Chawla
Head, School of IT
University of Sydney
NSW 2006

25 February 2008

Dear A/Prof Chawla,

The Digital Cultures Program in the Faculty of Arts welcomes the proposal to establish a Bachelor of IT / Bachelor of Arts degree program. As a teaching and research unit concerned with the relationships between IT and Arts practices, we are committed to the value of this cross-disciplinary axis.

This proposed degree is different from the Bachelor of Arts Informatics, and the Bachelor of Arts (Digital Technology and Culture), which are now being phased out. The proposed BIT/BA program places a stronger emphasis on IT skills in algorithms and data, while retaining quite substantial Arts content.

We believe that students coming into the BIT/BA will find Digital Cultures attractive as a major. We will be happy to be part of efforts to promote the new degree, and to communicate the complementarity of IT and Digital Cultures.

We have found that employers have welcomed graduates who combine IT skills with the breadth of Arts. We expect that graduates from this program will be very employable, and that some will become very innovative researchers.

Sincerely,

Chris Chesher

10.3.5

SECTION 1: ACADEMIC BOARD COURSE PROPOSAL

PART 1: OVERVIEW OF PROPOSAL

Faculty: **Engineering and Information Technologies**
Department/School presenting the proposal: **School of Information Technologies**

Faculty Contact person : Annette Alexander **Ext No: 18556**
Academic Proponent: A/Prof Sanjay Chawla **Ext. No: 13516**
Email: chawla@it.usyd.edu.au

Date course approved by Faculty: Engineering and IT : 18-03-2008
Science : 18-03-2008

1.1.1. Type of proposal: New ☒
Amended ☐ *Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.*
Deletion ☐ *For deletion of a course please complete Part 1, and Part 2 items 1.2.1, 1.2.2, 1.2.9 and 1.2.11.*

1.1.2. Type of course:
Undergraduate ☒
Postgraduate coursework ☐
Postgraduate research ☐
Other (provide details) ☐

1.1.3. Name of award course(s)
Name of **new** award course/s:
Bachelor of Information Technology/Bachelor of Medical Science

1.1.4. Abbreviated name
BIT/BMedSc

1.1.5. Date of introduction or deletion

Introduced: Year 2009 Semester 1

1.1.6 Availability to students

Commonwealth supported students	☒	Full-time Part-time	☒ ☐
Fee-paying local students	☒	Full-time Part-time	☒ ☐
Fee-paying international students	☒	Full-time Part-time	☒ ☐
Research Training Scheme	☐	(PG Research students only)	

SECTION 1 : ACADEMIC BOARD COURSE PROPOSAL

PART 2: DETAILS FOR ASSESSMENT OF PROPOSAL

1.2.1 Purpose of the proposal

The purpose of this proposal is to create the combined degree of Bachelor of Information Technology and Bachelor of Medical Science. The course is designed to meet the growing demand in the health industry for elite graduates who master both the information technology and medical science disciplines, and to allow students who are interested in both Information Technology (IT) and Medicine/Medical Science the opportunity to study both degrees simultaneously and graduate with skills which would make them an asset to both professions.

1.2.2 Justification for proposal

The BIT degree is a four year degree which prepares graduates to be leaders in advancing IT or applying cutting-edge IT. It is focussed on data and algorithms, the central ideas that underpin IT. The degree includes a core of topics such as programming, data structures, databases, systems analysis, project management, and a substantial (12 credit point) industry-based group project. Students study at least 84 credit points of IT topics at 3000- and 4000-level, such as data mining, advanced data models, information visualization, pervasive computing, natural language processing, and high-performance network computing. The BMedSc degree is a three year degree where each graduate completes studies in core Medical Science and a range of Science subject areas such as Anatomy/Histology, Biology(Genetics), Biochemistry, Immunology and Pharmacology. The proposed BIT/BMedSc will allow students to achieve the outcomes of both these degrees in only 5 years of study.

The proposal is in line with the vision of the Faculty of Engineering and Information Technologies to have two core degrees, BMedSc and BIT, and a set of combined degrees with them. There are five existing BE combined degrees which are very successful, including BE/BMedSc, and only one combined BIT degree, BIT/BCom, which was introduced last year and was oversubscribed. The proposal aims to increase the number of combined degrees with BIT, similarly to the combined degrees with BE.

BE(Software Engineering) and BE(Computer Engineering) are related to BIT. However, the three degrees have different focus: development of software in BE(Software Engineering), design of computer hardware in BE(Computer Engineering), and data and algorithms in BIT. In addition, neither BE(Software Engineering) nor BE(Computer Engineering), allow covering of key ideas underlying innovation in the IT field, such as the topics covered in the third and fourth year BIT units in computer science and information systems.

Another comparison might be to the single degrees, each of which has room for some electives which could be taken from the other area (e.g. BIT students can take 48 credit points of Science). However, neither of these provides room for nearly as much depth and breadth across both IT and Medical Science as the proposed combined degree.

The proposed degree will produce graduates who can meet a strong need from industry, for employees who have both extensive technical understanding of IT and essential skills in medicine and medical sciences. The demand for people with this combination of skills is strong, as shown in the support letters and the results from the student focus group. This proposal will fill an important gap in the suite of degree offerings, and it will not require any additional units of study to be delivered.

1.2.3 Benchmarking, market research and analysis

1.2.3.1 Benchmarking:

There is clearly an existing need for an award which combines a deep knowledge in IT and Medical Science. This is supported by the enclosed letters from potential employers, professional organisations, alumni and the feedback from the student focus group.

The proposal is also necessary to keep up with competition from other Australian Universities. Many the other Go8 universities, except Monash, ANU, and the University of Melbourne, have combined degrees which specifically combine an IT degree with an Medical Science or Biomedical degree (see below). The University of Sydney has a Software Engineering degree

combined with Medical Science. However, the focus of Software Engineering is on the process of designing and building software systems while the focus of the BIT degree is on the core concepts in IT – data and algorithms.

1.2.3.2 Market research and analysis:

1.2.3.3 Summary table of competitive offerings to proposed award course:

Institute	Competitive offering	Additional information
UNSW	BE(CE)/Master of Biomedical Engineering	5 years degree
UQ	BSc / BInfTech	4 years degree
UWA	BCS / BSc(BioChem)	4.5 years degree
Adelaide	BHS/BM&CS	4 year degree
USydney	BE/BMedSci	5 years degree

1.2.3.4 Estimated student demand

Estimated student demand	2009	2010	2011
Commonwealth-supported	15	20	25
Local fee-paying	5	5	5
International fee-paying	1	2	3
Estimated Total EFTSU	21	27	33
Lowest EFTSU for which course would be run	5	7	10

Estimated full-time and part-time Students	2009	2010	2010
Estimated number of Full-time students	100%	100%	100%
Estimated number of Part-time students	0	0	0

Impact on students currently enrolled: The proposed course may have an impact on the students enrolled in first year BIT as they may be allowed to transfer to the combined award. Similarly students enrolled in BCST(Adv) may become eligible to upgrade to BIT and then transfer to the combined BIT/BMedSc award.

Enrolment Quotas:
Will quotas be set for the proposed award course or for any units of study within the award course?

For local fee-paying students
Yes ☐ No ☒

For international fee-paying students
Yes ☐ No ☒

1.2.4 Consultation and external references

Consultees	Date of	Method of	Type of supporting

	consultation	consultation	evidence provided
Australian Computer Society (ACS)	Feb 2008	Email/phone	Letter from the President of ACS
Students	Feb 2008	Focus group	Report on the analysis of focus group
Michael Fulham, Clinical Director Medical Imaging of Sydney South West Area Health Service	Feb 2008	Email/phone	Letter of support
Karen Adams - Manager Knowledge Management of Northern Sydney Central Coast Area Health Services	Feb 2008	Email	Letter of support
Anthony McDonald, Senior Human Resources Associate, Pfizer Global Manufacturing	Feb 2008	Email	Letter of support

1.2.5 Course structure

1.2.5.1

Bachelor of Information Technology/Bachelor of Medical Science (BIT/BMedSc)	**Length of candidature (years)**	**Type of enrolment**	
		Full-time	**Part-time**
	Minimum	5	
	Maximum	10	

1.2.5.2 Minimum credit points required for completion of qualification: 240 credit points.

1.2.5.3 Mode of delivery: Face-to-face teaching ☒ Distance education ☐
Offshore delivery ☐
This is a combined degree: the individual degrees are delivered face to face.

1.2.5.4 Does the course involve clinical or industrial placement/experience?
Yes ☒ No ☐
All BIT/BMedSc students must enrol in INFO3600, a 12 credit point unit, involving industry-based project.

1.2.5.5 Please indicate what processes are in place to guarantee the quality of academic staffing, available resources for teaching and provision of adequate curriculum delivery, assessment and authentication of student work.

Students will take existing units and combine existing awards for which processes are already in place

1.2.6 Assessment procedures

Proposed assessment regime	**Proportion of**	**Use of external assessors/examiners** (Yes/No)

	assessment regime (%)	(if yes, please provide details)
The assessment regime will use the existing assessment regime of the individual awards of BIT and BMedSc		No

1.2.7 Student workload

1.2.7.1

Expected workload	Total time expected (per credit point)
Lectures	2
Tutorials	2
Practical experience	
Independent study	3
Reading and work for assessment	5
Others (please specify):	

1.2.7.2 Provide an indication of how the academic course load including the weight given to any dissertation component compare with other similar course loads in the faculty/college/university

Similar to BE requirement

1.2.7.3 What load for HECS and student load purposes should be given to each of the constituent parts or units making up the award course?

0.125

1.2.8 Attributes of graduates

Research and inquiry

An appreciation of the ubiquitous role of IT in the modern workplace. The ability to apply and contextualise a deep understanding of IT for decision making in the delivery of patient care across all fields of medicine. An awareness of IT as a dynamic field with rapid changes taking place on a continuous basis.

Information literacy

An ability to gather, manage, integrate and critique IT and biomedical information attained from various sources in order to ascertain the relevant information required for the identification, formulation and solution of a problem.

Personal and intellectual autonomy

Graduates of the combined degree will be able to work as strong team members, in a way that is informed by openness, curiosity and a desire to meet new challenges; and in an environment that will combine the disciplines of IT and Medical Science.

Ethical, social and professional understanding

Graduates will possess an ability to function in, and lead, a multi-disciplinary team. This is especially important since modern medical informatics projects transcend national boundaries.

Communication

Graduates of the combined degree will be able to effectively communicate ideas in both engineering and biomedical domains. They will learn how to serve as conduits to bridge the gap between the two domains.

1.2.9 Transitional arrangements (for continuing students)

Not applicable, but transfer from existing programs available to eligible students.

1.2.10 Course administration

Course to be administered by the following Faculty: Engineering and Information Technologies

1.2.10.1 Is there **shared teaching** with other Faculties?

Yes ☒ Please see below on provision of additional information.
No ☐

If yes,

Faculty	Percentage of EFTSU
Managing Faculty: EIT	47.5%
Collaborating faculties: Science	52.5%

1.2.10.2 Basis for the above allocation between faculties: Combined degree: 114 credit points in Engineering and Information Technology, and 126 credit points in Mathematics/Physics/Chemistry/Biology and Medical Science

1.2.10.3 Combined degree – inter-faculty arrangements: The Faculty of Science has been, and will be, consulted on an on-going basis.

1.2.10.4 Is the proposed award course part of a **con-joint venture** with another institution?

Yes ☐ No ☒

If yes, has the Director Student Centre been consulted?

Yes ☐ No ☐

1.2.11 Resolutions

1.2.11.1 Are there changes to the list of Degrees, Diplomas and Certificates conferred by your Faculty, as listed in the **Resolutions of the Senate** available in the University Calendar?

Yes ☒ *If yes, please complete Appendix 2.*
No ☐

1.2.11.2 Will there be new Resolutions or changes to the existing **Resolutions of the Senate** for the proposed Coursework award course?

Yes ☒ *If yes, please complete Appendix 3.*
No ☐

1.2.11.3 Will there be new Resolutions or changes to the existing **Faculty Resolutions** for the proposed award course?

Yes ☒ *If yes, please complete Appendix 4.*
No ☐

1.2.11.4 Will there be changes to the academic dress due to the introduction of the proposed new award course?

Yes ☐ No ☒

1.2.12 Quality assurance arrangements and plans

Since this is a combined degree all quality assurance procedures are already in place from the existing constituent degrees

SECTION 1 : ACADEMIC BOARD COURSE PROPOSAL

PART 3: RESOURCE IMPLICATIONS

1.3.1 Estimated Student Numbers for next three years of the award course

Estimated Student Demand	2009	2010	2011
Estimated Student Numbers	21	27	33
Estimated EFTSU	21	27	33

1.3.2 Availability of teaching and support staff

1.3.2.1 Availability of academic and support staff to deliver the proposed award course:

Since this combines two awards, academic and support staff is already in place for the constituent awards

1.3.2.2 Strengths of the department/school/faculty:

Both the School of Information Technology and the Faculty of Science are national and international leaders in their respective domains.

1.3.3 Availability of teaching space, and other required facilities

1.3.3.1 Teaching rooms: Already in place

1.3.3.2 Lecture theatres: Already in place

1.3.3.3 Laboratories (including computer access labs): Already in place

1.3.3.4 Staff offices: Already in place

1.3.3.5 Storage or other space required including any which needs to be rented externally: Already in place

1.3.4 Availability of Library Resources

Library holdings are adequate because all units of study are existing units.

1.3.5 Availability of IT and other Equipment

1.3.5.1 Computer Technology: Already available

1.3.5.2 Other Equipment: Already available

1.3.6 Timetabling arrangements

The proposed award course will be offered in the following teaching period:

standard ☒ non-standard teaching ☐
(e.g. Summer School, Winter School)

APPROVALS

Nominated Faculty Officer **Dean of Faculty (or Delegate)**

RESOLUTIONS OF THE SENATE (DEGREES, DIPLOMAS AND CERTIFICATES)

Resolutions of the Senate

Degrees, diplomas and certificates in the Faculty of Engineering and Information Technologies

The Resolutions of the Senate relating to degrees, diplomas and certificates in the Faculty of Engineering and Information Technologies (pp.229-230, *Calendar 2008)* are amended, with effect from 1 January 2009, as follows:

DEGREES, DIPLOMAS AND CERTIFICATES IN THE FACULTY OF ENGINEERING and INFORMATION TECHNOLOGIES

1. The degrees in the Faculty of Engineering and Information Technologies shall be:
1.1 Bachelor of Engineering (BE)
1.2 Bachelor of Information Technology (BIT)
1.3 Bachelor of Computer Science and Technology (BCST)
1.4 Bachelor of Computer Science and Technology (Advanced)(BCST(Advanced))
1.5 Master of Engineering (ME)
1.6 Master of Engineering Practice (MEP)
1.7 Master of Environmental Engineering Practice (MEEP)
1.8 Master of Philosophy in Engineering (MPhil)
1.9 Master of Project Management (MPM)
1.10 Master of Information Technology (MInfTech)
1.11 Master of Information Technology Management (MInfTechMan)
1.12 Master of Applied Information Technology (MAppIT)
1.13 Master of Philosophy in Information Technology (MPhil)
1.14 Doctor of Philosophy (PhD)
1.15 Doctor of Engineering (DEng)
1.16 Doctor of Engineering Practice (DEngPrac)

2. The combined degrees in the Faculty of Engineering and Information Technologies shall be:
2.1 Bachelor of Engineering/Bachelor of Arts (BE/BA)
2.2 Bachelor of Engineering/Bachelor of Commerce (BE/BCom)
2.3 Bachelor of Engineering/Bachelor of Laws (BE/LLB)
2.4 Bachelor of Engineering/Bachelor of Medical Science (BE/BMedSc)
2.5 Bachelor of Engineering/Bachelor of Science (BE/BSc) [or Advanced Science or Advanced Mathematics]
2.6 Bachelor of Engineering/Bachelor of Design in Architecture (BE/BDesArch)
2.7 Bachelor of Information Technology/Bachelor of Commerce (BIT/BCom)
2.8 Bachelor of Information Technology/Bachelor of Arts (BIT/BA)
2.9 Bachelor of Information Technology/Bachelor of Science (BIT/BSc)
2.10 Bachelor of Information Technology/Bachelor of Medical Science (BIT/BMedSc)

BACHELOR OF ENGINEERING

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all coursework courses, and the relevant Faculty Resolutions.

2. Specialisations

2.1 The BE degree is awarded in the following specialisations:
2.1.1 *School of Aerospace, Mechanical and Mechatronic Engineering*
2.1.1.1 Aeronautical Engineering
2.1.1.2 Aeronautical Engineering (Space)
2.1.1.3 Mechanical Engineering
2.1.1.4 Mechanical Engineering (Biomedical)
2.1.1.5 Mechanical Engineering (Space)
2.1.1.6 Mechatronic Engineering

2.1.1.7 Mechatronic Engineering (Space)
2.1.2 *School of Chemical and Biomolecular Engineering*
2.1.2.1 Chemical and BiomolecularEngineering
2.1.3 *School of Civil Engineering*
2.1.3.1 Civil Engineering
2.1.3.2 Civil Engineering (Construction Management)
2.1.3.3 Civil Engineering (Environmental)
2.1.3.4 Civil Engineering (Geomechanics)
2.1.3.5 Civil Engineering (Structures)
2.1.3.6 Project Engineering and Management (Civil)
2.1.4 *School of Electrical and Information Engineering*
2.1.4.1 Computer Engineering
2.1.4.2 Electrical Engineering
2.1.4.3 Electrical Engineering (Power Engineering)
2.1.4.4 Software Engineering
2.1.4.5 Telecommunications Engineering

3. Requirements for the degree at pass level

3.1. To qualify for the award of the BE degree at pass level, a student must:
3.1.1 complete successfully units of study giving credit for a total of 192 credit points;
3.1.2 complete the core requirements of an Engineering specialisation as shown in the Faculty Engineering Specialisation Tables; and
3.1.3 satisfy the requirements of all other relevant By-Laws, Rules and Resolutions of the Faculty and the University.

4. Requirements for the degree with honours

4.1 To qualify for the award of the BE degree with honours, a student must:
4.1.1 complete the requirements for the pass degree;
4.1.2 complete the honours requirements published in the Resolutions of the Faculty of Engineering and Information Technologies relating to the BE degree.

BACHELOR OF INFORMATION TECHNOLOGY

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all undergraduate courses, and the relevant Faculty Resolutions.

2. Requirements for the pass degree

2.1 To qualify for the award of the pass degree students must:
2.1.1 complete successfully units of study giving credit for a total of 192 credit points;
2.1.2 complete an IT stream in at least one of the following areas:
2.1.2.1 Computer Science,
2.1.2.2 Information Systems; and
2.1.3 satisfy the requirements of all other relevant By–Laws, Rules and Resolutions of the University.

3. Requirements for the honours degree

3.1 To qualify for the award of the honours degree students must complete the honours requirements published in the Faculty resolutions relating to the course.

BACHELOR OF COMPUTER SCIENCE AND TECHNOLOGY

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all undergraduate courses, and the relevant Faculty Resolutions.

2. Requirements for the pass degree

2.1 To qualify for the award of the pass degree students must:
2.1.1 complete successfully units of study giving credit for a total of 144 credit points; and
2.1.2 complete an IT stream in at least one of the following areas:
2.1.2.1 Computer Science,
2.1.2.2 Information Systems; and
2.1.3 satisfy the requirements of all other relevant By–Laws, Rules and Resolutions of the Faculty and the University.

3. Requirements for the honours degree

3.1 After completing the requirements for a BCST degree or a pass degree from the Faculty of Science or a degree equivalent to the BCST from another institution, students can apply for enrolment in the Honours degree. A successful completion of this course will lead to the award of BCST(Honours)

3.2 The normal duration of the Honours course is 1 year.

3.3 Entry, progression and completion requirements for the BCST(Honours) program are published in the Engineering and Information Technologies Faculty resolutions relating to the course.

BACHELOR OF COMPUTER SCIENCE AND TECHNOLOGY(ADVANCED)

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all undergraduate courses, and the relevant Faculty Resolutions.

2. Requirements for the pass degree

2.1 To qualify for the award of the pass degree students must:

2.1.1 complete successfully units of study giving credit for a total of 144 credit points; and

2.1.2 complete an IT stream in at least one of the following areas:

2.1.2.1 Computer Science,

2.1.2.2 Information Systems; and

2.1.3 maintain an average mark of 65% in units of study for each year of enrolment.

2.1.3.1 students failing to attain this progress requirment will be transferred to the BCST standard degree program.

2.1.4 satisfy the requirements of all other relevant By–Laws, Rules and Resolutions of the Faculty and the University.

3. Requirements for the honours degree

3.1 After completing the requirements for a BCST(Advanced) degree or an advanced degree from the Faculty of Science or a degree equivalent to the BCST(Advanced) from another institution, students can apply for enrolment in the Honours degree. A successful completion of this course will lead to the award of BCST(Advanced)(Honours)

3.2 The normal duration of the Honours course is 1 year.

3.3 Entry, progression and completion requirements for the BCST(Advanced)(Honours) program are published in the Engineering and Information Technologies Faculty resolutions relating to the course.

BACHELOR OF ENGINEERING COMBINED AND DOUBLE DEGREES

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all coursework courses, and the relevant Faculty Resolutions.

2. Combined degrees

2.1 The BE is available in the following combined degree programs.

2.1.1 Bachelor of Engineering/Bachelor of Arts (BE/BA)

2.1.2 Bachelor of Engineering/Bachelor of Commerce (BE/BCom)

2.1.3 Bachelor of Engineering/Bachelor of Laws (BE/LLB)

2.1.4 Bachelor of Engineering/Bachelor of Medical Science (BE/BMedSc)

2.1.5 Bachelor of Engineering/Bachelor of Science (BE/BSc)

2.1.6 Bachelor of Engineering/Bachelor of Design in Architecture (BE/BDesArch)

2.2 The BE is available to be taken in a double degree combination with Bachelor of Science (BE/BSc)

3. Requirements for the degrees at pass level

3.1 To qualify for the award of the degrees at pass level, a student must:

3.1.1 for the BE/BA,BE/BCom,BE/BMedSc, BEDesArch and BE/BSc combined degrees and the BE/BSc double degree, complete successfully units of study giving credit for a total of 240 credit points;

3.1.2 for the BE/LLB combined degree, complete successfully units of study giving credit for a total of 288 credit points.

3.1.3 complete the core requirements of an Engineering specialisation as shown in the Faculty Engineering Specialisation Tables; and

3.1.4 must complete the requirements published in the Resolutions of the Faculty of Engineering and Information Technologies and in the Joint Resolutions of the Faculty of

Engineering and Information Technologies and the Faculties of Arts, Economics and Business, Law, Architecture and Planning or Science, as the case may be, as well as all other relevant By-Laws, Rules and Resolutions of the University.

4. Requirements for the degrees with honours

4.1 To qualify for the award of the BE degree with honours as part of a combined degree, a student must:

4.1.1 complete the requirements for the pass degree;

4.1.2 complete the honours requirements published in the Resolutions of the Faculty of Engineering and Information Technologies relating to the BE combined degrees.

4.2 To qualify for the award of Honours in the partner degree, either BA, Bcom, BDesArch, LLB, BMedSc or BSc, a student must,

4.2.1 complete the requirements pertaining to Honours published in in the Joint Resolutions of the Faculty of Engineering and Information Technologies and the Faculties of Arts, Economics and Business, Law, Architecture, Design and Planning or Science, as the case may be.

BACHELOR OF INFORMATION TECHNOLOGY COMBINED DEGREES

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all coursework courses, and the relevant Faculty Resolutions.

2. Combined degrees

2.1 The BIT is available in the following combined degree programs.

2.1.1 Bachelor of Information Technology/Bachelor of Arts (BE/BA)

2.1.2 Bachelor of Information Technology/Bachelor of Commerce (BE/BCom)

2.1.4 Bachelor of Information Technology/Bachelor of Medical Science (BE/BMedSc)

2.1.5 Bachelor of Information Technology/Bachelor of Science (BE/BSc)

3. Requirements for the degrees at pass level

3.1 To qualify for the award of the degrees at pass level, a student must:

3.1.1 for the BIT/BA, BIT/BCom, BIT/BMedSc and BIT/BSc combined degrees , complete successfully units of study giving credit for a total of 240 credit points;

3.1.2 complete the core requirements of an Informatio Technology specialisation as shown in the Faculty Engineering and Information Technologies Specialisation Tables; and

3.1.4 must complete the requirements published in the Resolutions of the Faculty of Engineering and Information Technologies and in the Joint Resolutions of the Faculty of Engineering and Information Technologies and the Faculties of Arts, Economics and Business or Science, as the case may be, as well as all other relevant By-Laws, Rules and Resolutions of the University.

4. Requirements for the degrees with honours

4.1 To qualify for the award of the BIT degree with honours as part of a combined degree, a student must:

4.1.1 complete the requirements for the pass degree;

4.1.2 complete the honours requirements published in the Resolutions of the Faculty of Engineering and Information Technologies relating to the BIT combined degrees.

4.2 To qualify for the award of Honours in the partner degree, either BA, Bcom, BMedSc or BSc, a student must

4.2.1 complete the requirements pertaining to Honours published in in the Joint Resolutions of the Faculty of Engineering and Information Technologies and the Faculties of Arts, Economics and Business, or Science, as the case may be.

SECTION 1 – APPENDIX 4: RESOLUTIONS OF THE FACULTY

Resolutions of the Faculty

Additional Resolutions of the Faculty covering the award of Information Technology and Medical Science combined degree.

Resolutions related to admission, units of study, progression, assessment, credit, cross-institutional study, advanced standing and completion for all students enrolled in a degree in the Faculty of Engineering and Information Technologies are published in section 2 of the faculty handbook.

Combined Degree Specific Resolutions.

Bachelor of Information Technology and Bachelor of Medical Science Combined Degree (BIT/BMedSc)

28. 1. Requirements for the Pass BIT and BMedSc awards

1.1 Candidature for this combined degree program is a minimum of 5 years of full-time study.
1.2 Candidates qualify for the two awards from the combined degree program (a separate testamur being awarded for both the BIT and the BSc) by completing the following:
1.2.1 a total of at least 240 credit points that include:
1.2.1.1 the program of units of study set prescribed in the BIT Table relating to the Bachelor of Information Technology Stream that the student is pursuing available streams are:
1.2.1.1.1 Computer Science and
1.2.1.1.2 Information Systems;
1.2.1.2 including at least 18 credit points from the Science subject areas of Mathematics and/or Statistics, as prescribed in the BIT Table;
1.2.1.3 up to 12 credit points of Senior units of study listed in Table IV of the Faculty of Science handbook of units of study for the BMedSc can be towards the BIT's selected core units at level 3000 and above;
1.2.1.4 at least 48 credit points from Junior Science /Information Technology units of study, which may be common with those of 1.2.1.2, comprising MBLG1001/MBLG1901 Molecular Biology and Genetics, and 12 credit points each from Chemistry, Mathematics and Physics or Computational Science and 6 credit points from Biology;
1.2.1.5 48 credit points of Intermediate core units of study listed in Table IV of the Faculty of Science handbook of units of study for the BMedSc;
1.2.1.6 at least 24 credit points of Senior units of study taken from the subject areas of Anatomy/Histology, Biology (Genetics), Biochemistry, Cell Pathology, Immunology, Infectious Diseases, Microbiology, Pharmacology and Physiology;

29. 2. Requirements for the BIT and BMedSc awards with Honours
30. 2.1 BIT with Honours
2.1.1 On completion of a total of 192 credit points, a student may apply to enrol for the Honours option of the Bachelor of Information Technology degree in accordance with the requirements set out in the resolutions of the Faculty of Engineering and Information Technologies relating to the Bachelor of Information Technology degree.
2.2 BMedSc with Honours
31. 2.2.1 On completion of the requirements for the combined degrees, a student may be qualified to enrol in Honours in the Bachelor of Medical Science. To qualify for the award of the BMedSc with Honours, a student must complete successfully an additional year of study (the Honours year), as specified in the Faculty of Science Handbook.

32. 3. Units of study
33. 3.1 The units of study, which may be taken for the combined Bachelor of Information Technology and Bachelor of Medical Science program, are set out in the Resolutions of the Faculty of Engineering and the Faculty of Science respectively.
3.2 The Faculty Resolutions specify:
3.2.1 credit point values;
3.2.2 corequisites/prerequisites/assumed learning/assumed knowledge; and

3.2.3 any special conditions.

3.3 Candidates may not enrol in any unit of study which is substantially the same as one they have already passed (or in which they are currently enrolled).

4. Supervision of the degrees

4.1 Students will be under the general supervision of the Faculty of Engineering and Information Technologies for enrolment and administrative matters.

4.2 Students will be under the supervision of the Faculty of Science in relation to progression and eligibility of award of the BMedSc component and will be under the supervision of the Faculty of Engineering and InformationTechnologies in relation to the BIT component.

4.3 The Deans of the Faculty of Science and the Faculty of Engineering and Information Technologies shall jointly exercise authority in any matter concerning the combined course not otherwise dealt with in these resolutions.

34.

35. 5. Transfer arrangements

5.1 A student may abandon the combined BIT/BMedSc course and elect to complete either the BIT or BMedSc degree in accordance with the resolutions governing that degree.

SECTION 1 – APPENDIX 5: LIBRARY IMPACT STATEMENT

I have examined the Library needs related to the proposal and certify that existing Library holdings, staffing, services and accommodation are, or will be, **adequate/inadequate** to cover the demands that are inherent in it.
(If there are any concerns about library holdings, please address these.)

....
for the University Librarian **Date**

Further comments:

Holdings:

Services/Staffing:

SECTION 2: FEE REVIEW AND FEE SETTING

Faculty: **Engineering and Information Technologies**

Department/School presenting the proposal: **Information Technologies**

Faculty Contact person and/or: A/Prof Sanjay Chawla **Ext. No:** 13516
Academic Proponent **Email:** chawla@it.usyd.edu.au

2.1.1 Type of proposal: **New** ☒
Amended ☐ **Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.**
Deletion ☐

2.1.2 Type of course: **Undergraduate** ☒
Postgraduate coursework ☐
Postgraduate research ☐

2.1.3 Name of award course(s)
Name of **new** award course:
Bachelor of Information Technology/Bachelor of Medical Science

2.1.4 Abbreviated name
BIT/BMedSc

2.1.5 Date of introduction or deletion
Introduced: Year 2009 Semester 1

2.1.6 Fee review and Fee-setting

2.1.6.1 Fees for Undergraduate award course:

Undergraduate award course	**Current fee band and fees** (per 1 EFTSU per annum)		**Proposed increase** (%)		**Proposed fee band and fees** (per 1 EFTSU per annum)	
	Local students	International students	Local	Int'l	Local students	International students
As for BIT	21 792	23 952				

PROPOSED BY:

Nominated Faculty Officer **Dean of Faculty (or Delegate)**

APPROVAL:

Provost and Deputy Vice-Chancellor/Vice-Chancellor

SECTION 3: COURSE INFORMATION FORM AND MARKETING PLAN

PART 1: COURSE INFORMATION FOR FLEXSIS

Faculty: **Engineering and Information Technology**

Department/School presenting the proposal: **Information Technology**

Faculty Contact person and/or: **A/Prof Sanjay Chawla** **Ext. No:** 13516
Academic Proponent **Email:** chawla@it.usyd.edu.au

3.1.1 Type of proposal: **New** ☒
Amended ☐ **Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.**
Deletion ☐

3.1.2 Type of course: **Undergraduate** ☒
Postgraduate coursework ☐
Postgraduate research ☐

3.1.3 Name of award course(s)
Name of **new** award course:
Bachelor of Information Technology/Bachelor of Medical Science

3.1.4 Abbreviated name

BIT/BMedSc

3.1.5 Date of introduction or deletion
Introduced: Year 2009 Semester 1

3.1.6 Course code
Course code of existing award course for amendment or deletion:

3.1.7 CRICOS code
CRICOS code of existing award course for amendment or deletion:

3.1.8 Short degree description (e.g. for the UAC Guide):
B Information Technology/B Medical Science

This course allows students to obtain an Information Technology degree and further enhance their career options by adding skills from Medical Science, Biomedicine, and Bioinformatics. It allows to complete a major in either Computer Science or Information Systems. The B Information Technology degree is accredited by the Australian Computer Society. Honours is available within the BIT, or as an additional year in the B Medical Science, to meritorious students.

3.1.9 Full degree description (e.g. for Faculty handbook):
The Bachelor of Information Technology/Bachelor of Medical Science is a 5-year award course. Students must complete successfully units of study that total at least 240 credit points which include the program of units of study set out in the requirements relating to the Bachelor of Information Technology Major (Computer Science or Information Systems) and at least 96 credit points in Science units of study totalling at least 96 credit points, of which at least 72 must be Second or Third Year credit points from the Table IV of the Faculty of Science handbook of units of study for the BMedSc degree, and including MBLG1001/MBLG1901 Molecular Biology and Genetics.

3.1.10 Level of award:

Higher doctorate	☐
Doctor of Philosophy (PhD)	☐
Doctorate by research and advanced coursework	☐
Master's degree by research	☐
Master's degree by coursework	☐
Graduate Diploma	☐
Graduate Certificate	☐
Bachelor's degree	☒
Advanced Diploma	☐
Associate Diploma	☐
Diploma	☐
Certificate	☐

3.1.11 Is this an Honours course? Yes ☒ No ☐
Honours is available in both BIT and/or BMedSc.

3.1.12 If the proposal is for a new award course, please indicate if the new course is the result of new resolutions for an existing course? Yes ☒ No ☐

3.1.13 Name of award that will be conferred upon completion of course:
Bachelor of Information Technology/Bachelor of Medical Science

3.1.14 If the proposal is for a new award course, please indicate which category the proposed course should be allocated to according to the DEST Field of Education and Discipline Area (available from the Courses and Fees Toolkit):

DEST Field of Education	020100, 020300, 019901
DEST Discipline Area	TBA

3.1.15 Credit points required for the award: 240

3.1.16 Location/campus for student attendance:

Camperdown & Darlington	☒	Camden	☐	Cumberland	☐
Mallett Street	☐	St James	☐	College of the Arts	☐
Conservatorium	☐	Offshore	☐	please specify	
Hospital (please specify)					

3.1.17 Are students enrolling in the proposed award course subject to:

Criminal Record Check	Yes	☐	No	☒
Prohibited Employment Declaration	Yes	☐	No	☒
Health Records & Privacy Information Declaration	Yes	☐	No	☒

3.1.18 Prohibitions:
Prohibitions apply at the unit of study level.

3.1.19 Articulation pathway (if applicable)**:**
Not applicable. However, students may complete with the BIT or the BMedSc if they have completed the requirements for each separate degree course.

3.1.20 Units of study offered in proposed award course:

(a). Existing units of study

114cp (19 UoS) from the Faculty of Engineering and IT

		CS Stream | IS Stream
IT core: 66cp	1	ENGG1805 Professional Engineering and IT (s1)

	1	INFO1103 Intro to Programming (s1& s2) or INFO1903 Informatics (s1)	
	1	INFO1105/1905 Data Structures (s2)	
	1	INFO2120/2820 Database Systems 1 (s1)	
	1	INFO2110 System Analysis and Modelling (s2)	
	1	INFO3402 Management of IT Projects and Systems (s1)	
	2	INFO3600 Major Development Project INFO3600 (s2, 12 cp)	
	1	ELEC1601 Foundations of Computer Systems (s2)	INFO1003 Foundations of Information Technology (s1 & s2)
	1	COMP2007 Algorithms and Complexity (s2)	ISYS2140 Information Systems (s1)
	1	COMP2129 Operating Systems and Machine Principals (s1)	INFO2315 Introduction to Information Security (s2)
	1	Senior IT UoS from selected core (3000)	ISYS3401 Analytical Methods (s1)
IT selected core and recommended electives: 48cp (CS) and 42cp (IS)	1	Senior IT UoS from selected core or recommended electives (3000 level)	
	6	Coursework Option: 6 UoS from BIT 4th year selected core (4000 or 5000 level) Honours Option: INFO4990, INF04991, INFO4992 (12 cp) + 2 UoS from 4000 or 5000 level	

18 cp (5 UoS typically) from the Faculty of Science (Mathematics and Statistics)

SIT recommends 4 junior 3cp UoS and 1 intermediate 6cp UoS, i.e.:

12 cp	4	MATH1001, MATH1002, MATH1003, MATH1004, MATH1005
6 cp	1	MATH2069, MATH2063, STAT2012

108 cp from the Faculty of Science (Medical Science, Physics, Chemistry, Biology)

12 cp	2	Junior-level PHYS or Computational Sciences (COSC1x02 + 1x03)
12 cp	2	Junior-level CHEM
12 cp	2	BIOL1xxx and MBLG1001
48 cp	8	BMED (intermediate level)
24 cp	4	Senior units from BMedSc Table IV

Example

BIT Honours (Computer Science Stream) + BMedSc

	UoS 1	UoS 2	UoS 3	UoS 4
Y1;S1	Informatics INFO1903	Professionalism ENG1805	MATH1001 / MATH1002	PHYS1002
Y1;S2	Data Structures INFO1805	Computer Systems ELEC1601	MATH1003 / MATH1005	PHYS1003 or

				COSC1x01+x2
Y2;S1	OS Principles COMP2129	Databases 1 INFO2820	Bio Concepts (BIOL1001)	CHEM1001
Y2;S2	Algorithms COMP2x07	System Analysis INFO2110	Mol. Biology (MBLG1x01)	CHEM1002
Y3:S1	BMED2801	BMED2802	BMED2803	BMED2806
Y3:S2	BMED2804	BMED2805	BMED2807	BMED2808
Y4:S1	IT Project Management INFO3402	Data Mining COMP5318	Intro to AI COMP3308	Intermediate Math
Y4:S2	Major Development Project INFO 3600 (12cp)		Methods in Life Sciences COMP3456	Human Comp. Interaction INFO3315
Y5;S1	Research Methods INFO4990	Research Thesis A INFO4991	Bioinformatics and Genomics BIOL3x27	Senior MedSc from Table IV
Y5:S2	Research Thesis B INFO4992	Research Thesis B INFO4992	Evolutionary Genetics BIOL3x25	Senior MedSc from Table IV

(b). New units of study

None.

SECTION 3 : COURSE INFORMATION FORM AND MARKETING PLAN

PART 2: COURSE INFORMATION FOR UNIVERSITY'S UNDERGRADUATE AND POSTGRADUATE COURSE DATABASE (FOR MARKETING PURPOSES)

3.2.1 UAC code: TBA (Undergraduate courses only)

3.2.2 CRICOS code: TBA

3.2.3 Career opportunities: Examples include IT careers in Biomedical or Bioinformatics companies, IT careers in governmental health services, and bridging the gap between IT and Medical Science.

3.2.4 Areas of study: Computer Science, Information Systems, Biology, Chemistry, Physics, Medical Science and Bioinformatics.

3.2.5 Assumed knowledge: Mathematics or HSC Mathematics Extension 1. Other assumed knowledge depends on first year subjects selected.

3.2.6 Minimum education requirements:

Year 12 (senior secondary certificate) or equivalent	☒	Bachelor's degree (pass)	☐
		Bachelor (Hons)	☐
No minimum education	☐	Graduate Certificate	☐
Mature background	☐	Graduate Diploma	☐
Relevant employment experience	☐	Master's degree	☐

Additional information:

Honours is available within the BIT, or as an additional year in the BMedSc to meritorious students.

The BIT/BMedSc has been developed after extensive consultation with industry to ensure graduates are equipped for the changes demanded in these dynamic areas. This 5-year combined degree provides students with a structured program of study in information technology and medical science. All students undertake core units in areas including computer science, information systems, and selected medical science areas.

3.2.7 If the proposal is for a Postgraduate award course, please indicate the course method:

Coursework	☐	Coursework with research pathway	☐
Research	☐		

3.2.8 UAI (for UG only):

2008	95.6
2007	96.6
2006	95.15

3.2.9 Additional admission selection criteria:

Candidates with considerable experience in computer programming, you may apply for entry by submitting a portfolio of your work to the School of Information Technologies, as well as submitting a UAC application form. Portfolios will be taken into consideration if you have a UAI slightly below the cut-off. If you submit a portfolio it must be received by 2 January 2009.

If the candidates do not submit a portfolio by the closing date you will be considered solely on the basis of your UAI or equivalent.

For further information or a portfolio entry application form, call the School on (02) 9351 3423 or visit www.it.usyd.edu.au

3.2.10 If the course is offered to international students please complete the following:

UAI International (for international students only): 95.6 (Undergraduate courses only)

Other international student entry requirements:

3.2.11 If the proposal is for a Postgraduate award course, please indicate the application closing date:

For local students, closing date for applications is

For international students, closing date for applications is

3.2.12 Will mid-semester intake be available for:

Commonwealth-supported students	Yes	☐	No	☒
Local fee-paying students	Yes	☐	No	☒
International fee-paying students	Yes	☐	No	☒

SECTION 3 : COURSE INFORMATION FORM AND MARKETING PLAN

PART 3: MARKETING PLAN

3.3.1 Marketing plan and strategy

The proposed award course will be marketed to prospective students via the UAC Guide, the International Office publications and website, and through student recruitment events targeting high school students conducted by the university, the faculty, and the school, e.g. SydneyUni Live, Information Day, meetings with career advisers and teachers etc.

APPROVALS

Nominated Faculty Officer **Dean of Faculty (or Delegate)**

SECTION 4: INTERNATIONAL STUDENT ADMINISTRATION REQUIREMENTS

Faculty: **Engineering and Information Technologies**

Department/School presenting the proposal: **Information Technologies**

Faculty Contact person and/or: A/Prof Sanjay Chawla **Ext. No:** 13516

Academic Proponent **Email:** chawla@it.usyd.edu.au

4.1.1 Type of proposal: **New** ☒
Amended ☐ **Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.**
Deletion ☐

4.1.2 Type of course: **Undergraduate** ☒
Postgraduate coursework ☐
Postgraduate research ☐

4.1.3 Name of award course(s)
Name of **new** award course:
Bachelor of Information Science/Bachelor of Medical Science

4.1.4 Abbreviated name
BIT/BMedSc

4.1.5 Date of introduction or deletion
Introduced: Year 2009 Semester 1

4.1.6 Course code
Course code of existing award course for amendment or deletion:

4.1.7 CRICOS code
CRICOS code of existing award course for amendment or deletion:

4.1.8 Marketing plan and strategy

The proposed award course will be marketed to prospective students via the UAC Guide, the International Office publications and website, and through student recruitment events targeting high school students conducted by the university, the faculty, and the school, e.g. SydneyUni Live, Information Day, meetings with career advisers and teachers etc.

4.1.9 Availability of course

Will international students be able to enrol full-time?
Yes ☒ No ☐

4.1.10 Mode of study

Will international students be able to study the proposed course in "face-to-face" mode for at least 75% of the time each semester?
Yes ☒ No ☐

4.1.11 Incidental (ancillary) fees

Will the proposed course incur any compulsory costs other than tuition fees and compulsory subscriptions?
Yes ☒ If yes please indicate the amount Students are required to purchase course notes and text books where required. Additional cost is estimated at $80-100 per year of candidature.
No ☐

4.1.10 Commencement semester

Indicate whether entry to the course is possible in each semester.
SEM1 ONLY ☒ SEM1or 2 ☐ SEM2 ONLY ☐
If entry is permissible in Semester 2, please indicate whether subject choice will be restricted and whether the duration of the course will necessarily increase?

4.1.11 English language requirements

Will the minimum English language requirement for the proposed course differ from the usual requirements (i.e. overall IELTS score of 6.5 with a minimum of 6.0 in each band)?
Yes ☐ If yes please indicate IELTS equivalent
No ☒

36. APPROVALS

……

37. Dean or delegate

The Proposed Course is suitable for CRICOS registration and International Office processing.

.....
Director International Office

SECTION 5: OFFICE OF STRATEGY IMPLEMENTATION AND SUSTAINABILITY PLANNING

Faculty: **Engineering and Information Technology**

Faculty Contact person and/or: A/Prof Sanjay Chawla **Ext. No:** 13516
Academic Proponent **Email:** irena@it.usyd.edu.au

5.1.1 Type of proposal: **New** ☒
Amended ☐ **Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.**
Deletion ☐

5.1.2 Type of course: **Undergraduate** ☒
Postgraduate coursework ☐
Postgraduate research ☐

5.1.3 Name of award course(s)
Name of **new** award course:
Bachelor of Information Technology/Bachelor of Medical Science

5.1.4 Abbreviated name

BIT/BMedSc

5.1.5 Date of introduction or deletion
Introduced: Year 2009 Semester 1

5.1.6 Estimated percentage distribution of load across departments in one or more faculties:

Faculty	Department	Estimated percentage of load
Engineering and Information Technology	**IT and EIE**	**47.5%**
Science	**Biology, Chemistry, Physics, Mathematics and Statistics**	**52.5%**

5.1.7 Number of semesters required to complete the course in minimum time **10**

5.1.8 Estimated student enrolments (i.e. head count)

Estimated student enrolments		2009	2010	2011
Commonwealth-supported places	Full-time	15	20	25
	Part-time			
Local fee-paying	Full-time	5	5	5
	Part-time			
International fee-paying	Full-time	1	2	3
	Part-time			
Total student enrolments		21	27	33

5.1.9 For undergraduate degrees only, please indicate the expected 'carry-on' rate from one academic year to the next. 1005
e.g. the number of students in first year in year 'n' expected to re-enrol in second year in year 'n+1'.

5.1.10 <u>IMPORTANT</u> The University operates within a fixed target for Commonwealth-supported Place (CSP) load. Any new course proposals which include intakes of CSP (HECS) students must be accompanied by an indication of a corresponding reduction in the CSP intake to another degree of similar duration offered within the same Faculty.
Details of proposed reduction:

APPROVALS

Nominated Faculty Officer **Dean of Faculty or delegate**

Summary of Focus Group for Proposed BIT/BMedSc Degree

SCHOOL OF IT, 11 FEBRUARY 2008

BACKGROUND

In response to the success of the new 5-year combined BIT/BCommerce degree, the School wishes to build on the demand for combined IT degrees by introducing the combined BIT/Bachelor of Medical Science degree. As with the BIT/BCom, the BIT/BMedSc degree is intended to provide a small group of 10-20 students with a 95-plus UAI the opportunity to acquire in-depth knowledge and skills in both IT and medical science-related areas.

PURPOSE OF THE FOCUS GROUP

The group was constituted to help ascertain the potential interest of students in enrolling in the proposed course.

GROUP MEMBERS

A doctoral student, a recent high-achieving honours graduate, a current honours student and an undergraduate student were asked to comment on the proposed degree.

QUESTIONS AND SUMMARIES OF RESPONSES

38. If you were entering an undergraduate degree program now, what would be attractive to you about this degree and why?

"It does let you touch on a range of things in science, so there's a bit of physics, a bit of chemistry and a bit of biology, so that if you get to the end of second year and you decide to shift degrees, there's a bit of flexibility, which is quite nice."

"The first year is pretty similar to what I wanted to do when I started, like the maths, engineering subjects, computer science and physics."

"There is no room for choice in the first year, but that's not necessarily a bad thing because someone who would commit to this five-year degree probably already has a strong interest in both areas, and probably wouldn't be that peeved that there isn't much scope for electives in the first year."

"I quite like that there isn't much room for choice, because it makes subject selection much easier than when I started my degree, so something like a structured degree would be nice."

"I do like the spread of computer science areas: engineering, database stuff, theoretical stuff as well."

"One of the nice things about the way this degree is structured is that you can do a mixture of things right through – one of the things I'd be worried about is a year of computer science only, so it's nice that it's a mixture."

39. What would you want to know about before starting the degree?

Overwhelmingly: "What can I do after I've got this degree? Where can I actually go with this degree?"

"How much [subject] choice do I have right now, before I start uni, and how much flexibility is there once I get past first and second semester, in terms of second year subject choices and choosing different subject areas."

"What would the contact hours be? How much time spent in labs and tutorials?"

"What I am I gaining by spending five years in this degree, rather than doing just one of the two degrees and then choosing electives within that degree?"

"Where would the classes be held [in relation to the Medical Science units]? Would they all be held on Main Campus?"

40. What is not in the degree that you would like to see there? What would you want to happen during the course?

"The projects should definitely have a medical science bent, and incorporate a linkage with medical science to bring in people from this field."

"Will there be bioinformatics projects?"

"Data mining, databases definitely have an application to medical science."

"Discrete Mathematics [MATH1004] should be pointed out to students as a good unit of study for this degree."

"An information visualisation course, which would relate to medical imaging and other fields in medicine where computers are becoming much more important."

41. On completing such a program, what would you see as your likely career path?

"Working in a medical context, such as in a hospital, but having expertise in both areas, as opposed to people with expertise in one area but not the other."

"Research and development in the medical industry, but also being able to use technology in the process."

"Working for a software development company producing applications for hospitals, pharmacies, etc."

"IT consultancy for medical organisations or liaison between IT companies and hospitals"

"In a research sense, being able to build a program and use it to perform experiments and then being able to analyse the results, so you could go from end to end without requiring other people."

42. SUMMARY OF MAIN THEMES AND QUERIES

The usefulness of a degree which combines IT and medical science

All the participants agreed that this degree would produce much-needed graduates skilled in both the theoretical and technical aspects of IT, and also possessing a firm grounding in all aspects of medical science, especially when computers are used more often and in more ways in medical research and administration. It was also remarked that this degree would provide enough of a base for students to pursue an IT, a medical science or a straight science pathway.

Relation of major IT project to Medical Science

A query was raised about whether the major development project could count towards the BMedSc component, and if students would need to complete a project that was both IT and Medical Science-related? A participant asked about how exactly the bioinformatics units would fit into the degree.

University marketing of this degree

It was suggested that more detailed descriptions of the combined degrees in University of Sydney marketing material, the UAC Guide, etc., would encourage students to consider this degree (and other

combined degrees in general). This information could include the proportion of BIT content vs. BMedSc content, the subject areas covered, and so on. The participants agreed that combined degrees can be confusing to understand, and therefore clearer, more descriptive information might encourage prospective students to choose this particular degree.

Differentiation between BE/BMedSc and BIT/BMedSc

One participant recommended that clear differences be drawn between these two combined degrees, and that the features and benefits of the BIT/BMedSc should be underlined to encourage students to consider this degree rather than the BE/BMedSc which also offers computing and software streams.

Flexibility between the CS and IS streams

A concern was raised that if students pick subjects for one particular stream in first year, that this would lock them in to that stream for the entire degree. Would there be an option for students to change streams easily over the course of the degree?

Medical Science Honours

Two participants asked about the structure of this degree in relation to completing Medical Science Honours, and whether this option would simply entail enrolling for a sixth year after the completion of the combined degree. It was agreed by the entire group that holding Honours degrees in both IT and Medical Science would be very valuable, and that having this option available would be attractive to students.

Royal Prince Alfred Hospital
Department of PET & Nuclear Medicine
Level A7, Bldg 63
Royal Prince Alfred Hospital
Missenden Road
Camperdown NSW 2050
Tel: 95158547
Fax: 95156214

Associate Professor S Chawla,
Head of School,
School of Information Technologies,
University of Sydney,
NSW 2006

Date: 8 Feb 2008

Dear Professor Chawla,

I write in support of the School of Information Technologies' proposal for the combined degrees of Bachelor in Information Technologies and Bachelor of Medical Science (BIT/BMedScience) in 2009.

The rapid expansion of medical informatics and the increasing reliance on IT in the delivery of patient care across all fields of medicine ensures that this combined degree will be very beneficial to the healthcare field.

Yours sincerely,

Michael Fulham

Professor Michael Fulham
Clinical Director Medical Imaging Sydney South West Area Health Service (SSWAHS)
Senior Staff Specialist

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Human Resources

18 February 2008

A/Professor Sanjay Chawla
Head, School of IT
University of Sydney
Sydney, NSW

Dear Prof. Chawla,

Pfizer Australia would like to state that we support the proposal to introduce a new combined degree at the University of Sydney, Bachelor in Information Technologies / Bachelor of Medical Sciences. We find that a degree of this nature would be very beneficial to our industry.

We are keen to hire graduates who have both strong technical expertise in computing and a deep understanding of engineering / biomedical techniques and issues. Each of these aspects requires long study and maturity. One can't just take a computer scientist and add mastery of chemistry or engineering, nor can one provide brief training to bring a Medical Science graduate to insight into the potential of the latest (and coming) technologies such as grid computing, data visualisation, or data mining.

The proposed BIT/BMedSc will produce graduates who would be valuable to us, both in operating our own business and in serving the needs of our clients.

Pfizer Australia has recently recruited three graduates who have completed combined degrees in Engineering and BMedSc. They have shown the value of combining biomedical expertise with professional skills in software and hardware respectively. These skills are invaluable, especially within a pharmaceutical manufacturing environment such as Pfizer Australia. It would be wonderful to also have access to a cohort who combines Medical Science with the data management, multimedia, and computing infrastructure topics covered in the higher years of the BIT.

We fully support the University of Sydney on this initiative.

Yours sincerely,

Anthony McDonald
Senior Human resources Associate
Pfizer Global Manufacturing

10.3.6

SECTION 1: ACADEMIC BOARD COURSE PROPOSAL

PART 1: OVERVIEW OF PROPOSAL

Faculty: **Engineering and Information Technologies**
Department/School presenting the proposal: **School of Information Technologies**

Faculty Contact person: Annette Alexander **Ext. No:** 18556
Academic Proponent : A/Prof Sanjay Chawla **Ext. No:** 13516
Email: chawla@it.usyd.edu.au

Date course approved by Faculty: Engineering and IT : 18-03-2008
Science : 18-03-2008

1.1.1. Type of proposal: **New** ☒
Amended ☐ *Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.*
Deletion ☐ *For deletion of a course please complete Part 1, and Part 2 items 1.2.1, 1.2.2, 1.2.9 and 1.2.11.*

1.1.2. Type of course:
Undergraduate ☒
Postgraduate coursework ☐
Postgraduate research ☐
Other (provide details) ☐

1.1.3. Name of award course(s)
Name of **new** award course/s:
Bachelor of Information Technology/Bachelor of Science

1.1.4. Abbreviated name
BIT/BSc

1.1.5. Date of introduction or deletion

Introduced: Year 2009 Semester 1

1.1.6 Availability to students

Commonwealth supported students	☒	Full-time Part-time	☒ ☐
Fee-paying local students	☒	Full-time Part-time	☒ ☐
Fee-paying international students	☒	Full-time Part-time	☒ ☐
Research Training Scheme	☐	(PG Research students only)	

PART 2: DETAILS FOR ASSESSMENT OF PROPOSAL

1.2.1 Purpose of the proposal

The purpose of this proposal is to create the combined degree of Bachelor of Information Technology and Bachelor of Science. The course is designed to meet the growing industry demand for elite graduates who master both the Information Technology (IT) and Science disciplines.

1.2.2 Justification for proposal

The BIT degree is a four year degree which prepares graduates to be leaders in advancing IT or applying cutting-edge IT. It is focussed on data and algorithms, the central ideas that underpin IT. The degree includes a core of topics such as programming, data structures, databases, systems analysis, project management, and a substantial (12 credit point) industry-based group project. Students study at least 84 credit points of IT topics at 3000- and 4000-level, such as data mining, advanced data models, information visualization, pervasive computing, natural language processing, and high-performance network computing. The BA degree is a three year degree where each graduate completes a major in an Science subject area such as Mathematics, Physics, Psychology, Geography, Biology and Chemistry. The proposed BIT/BSc will allow students to achieve the outcomes of both these degrees in only 5 years of study. IIn addition to BSc, in includes also BSc(Advanced) and BSc(Advanced mathematics).

The proposal is in line with the vision of the Faculty of Engineering and Information Technologies to have two core degrees, BE and BIT, and a set of combined degrees with them. There are five existing BE combined degrees which are very successful, including BE/BSc, and only one combined BIT degree, BIT/BCom, which was introduced last year and was oversubscribed. The proposal aims to increase the number of combined degrees with BIT, similarly to the combined degrees with BE.

BE(Software Engineering) and BE(Computer Engineering) are related to BIT. However, the three degrees have different focus: development of software in BE(Software Engineering), design of computer hardware in BE(Computer Engineering), and data and algorithms in BIT. In addition, neither BE(Software Engineering) nor BE(Computer Engineering), allow covering of key ideas underlying innovation in the IT field, such as the topics covered in the third and fourth year BIT units in computer science and information systems.

The closest existing degree at the University of Sydney is the BSc degree, in which students can complete two majors: one in Information Technology (Computer Science or Information Systems) and one in a Science area. The proposed degree offers the following advantages. Firstly, BSc is not a professional degree, while BIT is accredited by the Australian Computer Society. Secondly, the nature of computing has changed and there is a growing need for multi-discipline expertise, and this need is for two degrees as opposite to two majors. BIT has far more coverage of higher year material in IT (84 credit points compared to between 24 and 48 in the BSc), and in particular it provides access to the fourth year material such as the topics listed in the second paragraph above. Also, unlike the BSc, the BIT includes a half-semester group project working on a task for an industry client. Thirdly, the proposed BIT/BSc will also be much more visible than the BSc degree to potential students seeking the combination of IT with Science, both because IT is in the name of the degree, and also because it will listed under the Faculty of Engineering and Information Technologies, rather than under the Faculty of Science which is not naturally associated with IT.

Another comparison might be to the single degrees, each of which has room for some electives which could be taken from the other area. However, neither of these provides room for nearly as much depth and breadth across both IT and Science as the proposed combined degree.

There is natural synergy between information technology and science: all Science areas involve using information technology and many Science graduates work in information technology. The proposed degree will produce graduates who can meet a strong need from industry, for

employees who have both extensive technical understanding of IT and essential skills in one or two Science areas. The demand for people with this combination of skills is very strong, as shown in the support letters and the results from the student focus group. The BIT/BSc graduates will be ideally placed for a wide range of careers in both IT and Science: research, consulting, analytics and technological solutions. This proposal will fill a very important gap in the suite of degree offerings, and it will not require any additional units of study to be delivered.

1.2.3 Benchmarking, market research and analysis

1.2.3.1 Benchmarking:

There is clearly an existing need for an award which combines a deep knowledge in IT and Science areas. This is supported by the enclosed letters from the Australian Computer Society and the results of the student focus group.

The proposal is also necessary to keep up with competition from other Australian Universities. All the other Go8 universities, except the University of Adelaide have degrees which specifically combine an IT degree with an Science degree (see below). The University of Melbourne and the University of Sydney have combined Engineering degrees with Science. However, as mentioned already, the focus of BE(Software Engineering), BE(Computer Engineering) and BIT is different: The UNSW has both an Engineering and IT degree combined with Science.

1.2.3.2 Market research and analysis:

1.2.3.3 Summary table of competitive offerings to proposed award course:

Institute	Competitive offering	Additional information
UNSW	BEng(Comp.Eng.)/BSc BSc/BSc(Comp.Sci)	5 years 4 years (5 years for Hons in Sci. or Comp. Sci.)
UQ	BInfTech/BSc: 4 years	4 years
UWA	BComputerScience/BScience	4.5 years
ANU	BInfoTech/BSc (Forestry) BSoftwareEngineering/BSc BEng/BSc	5 years
Monash	BSc/BComputerScience	4 years
Melbourne	BEng(Comp.Eng./Computer/Soft.Eng/Soft)/BSc	5 years
Adelaide	N/A	5 years
Sydney	BE/BSc	5 years

1.2.3.4 Estimated student demand

Estimated student demand	2009	2010	2011
Commonwealth-supported	20	25	30
Local fee-paying	5	5	5
International fee-paying	5	7	10
Estimated Total EFTSU	0	0	0
Lowest EFTSU for which course would be run	5	7	10

Estimated full-time and part-time Students	2009	2010	2011
Estimated number of Full-time students	100%	100%	100%
Estimated number of Part-time students	0	0	0

Impact on students currently enrolled: The proposed course may have an impact on the students enrolled in first year BIT as they may be allowed to transfer to the combined award. Similarly students enrolled in BCST(Adv) may become eligible to upgrade to BIT and then transfer to the combined BIT/BSc award.

Enrolment Quotas:
Will quotas be set for the proposed award course or for any units of study within the award course?

For local fee-paying students
Yes ☐ No ☒

For international fee-paying students
Yes ☐ No ☒

1.2.4 Consultation and external references

Consultees	Date of consultation	Method of consultation	Type of supporting evidence provided
Australian Computer Society (ACS)	Feb 2008	Phone/email	Letter from the President of ACS
Students	Feb 2008	Focus group	Report on the analysis of focus group

1.2.5 Course structure

1.2.5.1

Bachelor of Information Technology/Bachelor of Science (BIT/BSc)	Length of candidature (years)	Type of enrolment	
		Full-time	Part-time
	Minimum	5	
	Maximum	10	

1.2.5.2 Minimum credit points required for completion of qualification:

240 credit points.

1.2.5.3 Mode of delivery:

Face-to-face teaching ☒
Distance education ☐
Offshore delivery ☐
This is a combined degree: the individual degrees are delivered face to face.

1.2.5.4 Does the course involve clinical or industrial placement/experience?
Yes ☒ No ☐

All BIT students must enrol in INFO3600, a 12 credit point unit, involving industry-based project.

1.2.5.5 Please indicate what processes are in place to guarantee the quality of academic staffing, available resources for teaching and provision of adequate curriculum delivery, assessment and authentication of student work.

Students will take existing units and combine existing awards for which processes are already in place

1.2.6 Assessment procedures

Proposed assessment regime	Proportion of assessment regime (%)	Use of external assessors/examiners (Yes/No) (if yes, please provide details)
The assessment regime will use the existing assessment regime of the individual awards of BIT and BSc		No

1.2.7 Student workload

1.2.7.1

Expected workload	Total time expected (per credit point)
Lectures	2
Tutorials	2
Practical experience	
Independent study	3
Reading and work for assessment	5
Others (please specify):	

1.2.7.2 Provide an indication of how the academic course load including the weight given to any dissertation component compare with other similar course loads in the faculty/college/university

Similar to existing BE and BIT requirements

1.2.7.3 What load for HECS and student load purposes should be given to each of the constituent parts or units making up the award course?

0.125

1.2.8 Attributes of graduates

Research and inquiry

An appreciation of the ubiquitous role of IT in the modern workplace. The ability to apply and contextualise a deep understanding of IT for decision making in Science disciplines and vice versa. An awareness of IT as a dynamic field with rapid changes taking place on a continuous basis.

Information literacy

An ability to gather, manage, integrate and critique IT and Science information attained from various sources in order to ascertain the relevant information required for the identification, formulation and solution of a problem.

Personal and intellectual autonomy

Graduates of the combined degree will be able to work as strong team members, in a way that is informed by openness, curiosity and a desire to meet new challenges; and in an environment that will combine the disciplines of IT and Science.

Ethical, social and professional understanding

Graduates will possess an ability to function in, and lead, a multi-disciplinary, multi-cultural and multi-national team. This is especially important since modern IT projects transcend national boundaries.

Communication

Graduates of the combined degree will be able to effectively communicate ideas in both IT and Science domains. They will learn how to serve as conduits to bridge the gap between the two domains.

1.2.9 Transitional arrangements (for continuing students)
Not applicable, but transfer from existing programs available to eligible students.

1.2.10 Course administration

Course to be administered by the following Faculty: Engineering and Information Technologies (?)

1.2.10.1 Is there **shared teaching** with other Faculties?

Yes ☒ Please see below on provision of additional information.
No ☐

If yes,

Faculty	Percentage of EFTSU
Managing Faculty: EIT	52.5%
Collaborating faculties: Science	47.5%

1.2.10.2 Basis for the above allocation between faculties: Combined degree: 126 credit points in Engineering and Information Technology, 114 credit points in Science

1.2.10.3 Combined degree – inter-faculty arrangements: The Faculty of Science has been, and will be, consulted on an on-going basis.

1.2.10.4 Is the proposed award course part of a **con-joint venture** with another institution?

Yes ☐ No ☒
If yes, has the Director Student Centre been consulted?
Yes ☐ No ☐

1.2.11 Resolutions

1.2.11.1 Are there changes to the list of Degrees, Diplomas and Certificates conferred by your Faculty, as listed in the **Resolutions of the Senate** available in the University Calendar?

Yes ☒ *If yes, please complete Appendix 2.*
No ☐

1.2.11.2 Will there be new Resolutions or changes to the existing **Resolutions of the Senate** for the proposed Coursework award course?

Yes ☒ *If yes, please complete Appendix 3.*
No ☐

1.2.11.3 Will there be new Resolutions or changes to the existing **Faculty Resolutions** for the proposed award course?

Yes ☒ *If yes, please complete Appendix 4.*
No ☐

1.2.11.4 Will there be changes to the academic dress due to the introduction of the proposed new award course?

Yes ☐ No ☒

1.2.12 Quality assurance arrangements and plans

Since this is a combined degree alll quality assurance procedures are already in place from the existing constitutent degrees

SECTION 1 : ACADEMIC BOARD COURSE PROPOSAL

PART 3: RESOURCE IMPLICATIONS

1.3.1 Estimated Student Numbers for next three years of the award course

Estimated Student Demand	2009	2010	2011
Estimated Student Numbers	20	37	45
Estimated EFTSU	20	37	45

1.3.2 Availability of teaching and support staff

1.3.2.1 Availability of academic and support staff to deliver the proposed award course:

Since this combines two awards, academic and support staff is already in place for the constituent awards

1.3.2.2 Strengths of the department/school/faculty:

Both the School of Information Technology and the Faculty of Science are national and international leaders in their respective domains.

1.3.3 Availability of teaching space, and other required facilities

1.3.3.1 Teaching rooms: Already in place

1.3.3.2 Lecture theatres: Already in place

1.3.3.3 Laboratories (including computer access labs): Already in place

1.3.3.4 Staff offices: Already in place

1.3.3.5 Storage or other space required including any which needs to be rented externally: Already in place

1.3.4 Availability of Library Resources

Library holdings are adequate because all units of study are existing units.

1.3.5 Availability of IT and other Equipment

1.3.5.1 Computer Technology: Already available

1.3.5.2 Other Equipment: Already available

1.3.6 Timetabling arrangements

The proposed award course will be offered in the following teaching period:

standard ☒ non-standard teaching ☐
(e.g. Summer School, Winter School)

APPROVALS

Nominated Faculty Officer **Dean of Faculty (or Delegate)**

RESOLUTIONS OF THE SENATE (DEGREES, DIPLOMAS AND CERTIFICATES)

Resolutions of the Senate
Degrees, diplomas and certificates in the Faculty of Engineering and Information Technologies

The Resolutions of the Senate relating to degrees, diplomas and certificates in the Faculty of Engineering and Information Technologies (pp.229-230, *Calendar 2008)* are amended, with effect from 1 January 2009, as follows:

DEGREES, DIPLOMAS AND CERTIFICATES IN THE FACULTY OF ENGINEERING and INFORMATION TECHNOLOGIES

1. The degrees in the Faculty of Engineering and Information Technologies shall be:
1.1 Bachelor of Engineering (BE)
1.2 Bachelor of Information Technology (BIT)
1.3 Bachelor of Computer Science and Technology (BCST)
1.4 Bachelor of Computer Science and Technology (Advanced)(BCST(Advanced))
1.5 Master of Engineering (ME)
1.6 Master of Engineering Practice (MEP)
1.7 Master of Environmental Engineering Practice (MEEP)
1.8 Master of Philosophy in Engineering (MPhil)
1.9 Master of Project Management (MPM)
1.10 Master of Information Technology (MInfTech)
1.11 Master of Information Technology Management (MInfTechMan)
1.12 Master of Applied Information Technology (MAppIT)
1.13 Master of Philosophy in Information Technology (MPhil)
1.14 Doctor of Philosophy (PhD)
1.15 Doctor of Engineering (DEng)
1.16 Doctor of Engineering Practice (DEngPrac)

2. The combined degrees in the Faculty of Engineering and Information Technologies shall be:
2.1 Bachelor of Engineering/Bachelor of Arts (BE/BA)
2.2 Bachelor of Engineering/Bachelor of Commerce (BE/BCom)
2.3 Bachelor of Engineering/Bachelor of Laws (BE/LLB)
2.4 Bachelor of Engineering/Bachelor of Medical Science (BE/BMedSc)
2.5 Bachelor of Engineering/Bachelor of Science (BE/BSc) [or Advanced Science or Advanced Mathematics]
2.6 Bachelor of Engineering/Bachelor of Design in Architecture (BE/BDesArch)
2.7 Bachelor of Information Technology/Bachelor of Commerce (BIT/BCom)
2.8 Bachelor of Information Technology/Bachelor of Arts (BIT/BA)
2.9 Bachelor of Information Technology/Bachelor of Science (BIT/BSc)
2.10 Bachelor of Information Technology/Bachelor of Medical Science (BIT/BMedSc)

BACHELOR OF ENGINEERING
1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all coursework courses, and the relevant Faculty Resolutions.

2. Specialisations
2.1 The BE degree is awarded in the following specialisations:
2.1.1 *School of Aerospace, Mechanical and Mechatronic Engineering*
2.1.1.1 Aeronautical Engineering
2.1.1.2 Aeronautical Engineering (Space)
2.1.1.3 Mechanical Engineering
2.1.1.4 Mechanical Engineering (Biomedical)
2.1.1.5 Mechanical Engineering (Space)
2.1.1.6 Mechatronic Engineering
2.1.1.7 Mechatronic Engineering (Space)
2.1.2 *School of Chemical and Biomolecular Engineering*
2.1.2.1 Chemical and BiomolecularEngineering

2.1.3 *School of Civil Engineering*
2.1.3.1 Civil Engineering
2.1.3.2 Civil Engineering (Construction Management)
2.1.3.3 Civil Engineering (Environmental)
2.1.3.4 Civil Engineering (Geomechanics)
2.1.3.5 Civil Engineering (Structures)
2.1.3.6 Project Engineering and Management (Civil)
2.1.4 *School of Electrical and Information Engineering*
2.1.4.1 Computer Engineering
2.1.4.2 Electrical Engineering
2.1.4.3 Electrical Engineering (Power Engineering)
2.1.4.4 Software Engineering
2.1.4.5 Telecommunications Engineering

3. Requirements for the degree at pass level

3.1. To qualify for the award of the BE degree at pass level, a student must:
3.1.1 complete successfully units of study giving credit for a total of 192 credit points;
3.1.2 complete the core requirements of an Engineering specialisation as shown in the Faculty Engineering Specialisation Tables; and
3.1.3 satisfy the requirements of all other relevant By-Laws, Rules and Resolutions of the Faculty and the University.

4. Requirements for the degree with honours

4.1 To qualify for the award of the BE degree with honours, a student must:
4.1.1 complete the requirements for the pass degree;
4.1.2 complete the honours requirements published in the Resolutions of the Faculty of Engineering and Information Technologies relating to the BE degree.

BACHELOR OF INFORMATION TECHNOLOGY

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all undergraduate courses, and the relevant Faculty Resolutions.

2. Requirements for the pass degree

2.1 To qualify for the award of the pass degree students must:
2.1.1 complete successfully units of study giving credit for a total of 192 credit points;
2.1.2 complete an IT stream in at least one of the following areas:
2.1.2.1 Computer Science,
2.1.2.2 Information Systems; and
2.1.3 satisfy the requirements of all other relevant By–Laws, Rules and Resolutions of the University.

3. Requirements for the honours degree

3.1 To qualify for the award of the honours degree students must complete the honours requirements published in the Faculty resolutions relating to the course.

BACHELOR OF COMPUTER SCIENCE AND TECHNOLOGY

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all undergraduate courses, and the relevant Faculty Resolutions.

2. Requirements for the pass degree

2.1 To qualify for the award of the pass degree students must:
2.1.1 complete successfully units of study giving credit for a total of 144 credit points; and
2.1.2 complete an IT stream in at least one of the following areas:
2.1.2.1 Computer Science,
2.1.2.2 Information Systems; and
2.1.3 satisfy the requirements of all other relevant By–Laws, Rules and Resolutions of the Faculty and the University.

3. Requirements for the honours degree

3.1 After completing the requirements for a BCST degree or a pass degree from the Faculty of Science or a degree equivalent to the BCST from another institution, students can apply for enrolment in the Honours degree. A successful completion of this course will lead to the award of BCST(Honours)

3.2 The normal duration of the Honours course is 1 year.
3.3 Entry, progression and completion requirements for the BCST(Honours) program are published in the Engineering and Information Technologies Faculty resolutions relating to the course.

BACHELOR OF COMPUTER SCIENCE AND TECHNOLOGY(ADVANCED)

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all undergraduate courses, and the relevant Faculty Resolutions.

2. Requirements for the pass degree

2.1 To qualify for the award of the pass degree students must:
2.1.1 complete successfully units of study giving credit for a total of 144 credit points; and
2.1.2 complete an IT stream in at least one of the following areas:
2.1.2.1 Computer Science,
2.1.2.2 Information Systems; and
2.1.3 maintain an average mark of 65% in units of study for each year of enrolment.
2.1.3.1 students failing to attain this progress requirment will be transferred to the BCST standard degree program.
2.1.4 satisfy the requirements of all other relevant By–Laws, Rules and Resolutions of the Faculty and the University.

3. Requirements for the honours degree

3.1 After completing the requirements for a BCST(Advanced) degree or an advanced degree from the Faculty of Science or a degree equivalent to the BCST(Advanced) from another institution, students can apply for enrolment in the Honours degree. A successful completion of this course will lead to the award of BCST(Advanced)(Honours)
3.2 The normal duration of the Honours course is 1 year.
3.3 Entry, progression and completion requirements for the BCST(Advanced)(Honours) program are published in the Engineering and Information Technologies Faculty resolutions relating to the course.

BACHELOR OF ENGINEERING COMBINED AND DOUBLE DEGREES

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all coursework courses, and the relevant Faculty Resolutions.

2. Combined degrees

2.1 The BE is available in the following combined degree programs.
2.1.1 Bachelor of Engineering/Bachelor of Arts (BE/BA)
2.1.2 Bachelor of Engineering/Bachelor of Commerce (BE/BCom)
2.1.3 Bachelor of Engineering/Bachelor of Laws (BE/LLB)
2.1.4 Bachelor of Engineering/Bachelor of Medical Science (BE/BMedSc)
2.1.5 Bachelor of Engineering/Bachelor of Science (BE/BSc)
2.1.6 Bachelor of Engineering/Bachelor of Design in Architecture (BE/BDesArch)
2.2 The BE is available to be taken in a double degree combination with Bachelor of Science (BE/BSc)

3. Requirements for the degrees at pass level

3.1 To qualify for the award of the degrees at pass level, a student must:
3.1.1 for the BE/BA,BE/BCom,BE/BMedSc, BEDesArch and BE/BSc combined degrees and the BE/BSc double degree, complete successfully units of study giving credit for a total of 240 credit points;
3.1.2 for the BE/LLB combined degree, complete successfully units of study giving credit for a total of 288 credit points.
3.1.3 complete the core requirements of an Engineering specialisation as shown in the Faculty Engineering Specialisation Tables; and
3.1.4 must complete the requirements published in the Resolutions of the Faculty of Engineering and Information Technologies and in the Joint Resolutions of the Faculty of Engineering and Information Technologies and the Faculties of Arts, Economics and Business, Law, Architecture and Planning or Science, as the case may be, as well as all other relevant By-Laws, Rules and Resolutions of the University.

4. Requirements for the degrees with honours

4.1 To qualify for the award of the BE degree with honours as part of a combined degree, a student must:

4.1.1 complete the requirements for the pass degree;

4.1.2 complete the honours requirements published in the Resolutions of the Faculty of Engineering and Information Technologies relating to the BE combined degrees.

4.2 To qualify for the award of Honours in the partner degree, either BA, Bcom, BDesArch, LLB, BMedSc or BSc, a student must,

4.2.1 complete the requirements pertaining to Honours published in in the Joint Resolutions of the Faculty of Engineering and Information Technologies and the Faculties of Arts, Economics and Business, Law, Architecture, Design and Planning or Science, as the case may be.

BACHELOR OF INFORMATION TECHNOLOGY COMBINED DEGREES

1. These Resolutions must be read in conjunction with the *University of Sydney (Coursework) Rule 2000 (as amended)*, which sets out the requirements for all coursework courses, and the relevant Faculty Resolutions.

2. Combined degrees

2.1 The BIT is available in the following combined degree programs.

2.1.1 Bachelor of Information Technology/Bachelor of Arts (BE/BA)

2.1.2 Bachelor of Information Technology/Bachelor of Commerce (BE/BCom)

2.1.4 Bachelor of Information Technology/Bachelor of Medical Science (BE/BMedSc)

2.1.5 Bachelor of Information Technology/Bachelor of Science (BE/BSc)

3. Requirements for the degrees at pass level

3.1 To qualify for the award of the degrees at pass level, a student must:

3.1.1 for the BIT/BA, BIT/BCom, BIT/BMedSc and BIT/BSc combined degrees , complete successfully units of study giving credit for a total of 240 credit points;

3.1.2 complete the core requirements of an Informatio Technology specialisation as shown in the Faculty Engineering and Information Technologies Specialisation Tables; and

3.1.4 must complete the requirements published in the Resolutions of the Faculty of Engineering and Information Technologies and in the Joint Resolutions of the Faculty of Engineering and Information Technologies and the Faculties of Arts, Economics and Business or Science, as the case may be, as well as all other relevant By-Laws, Rules and Resolutions of the University.

4. Requirements for the degrees with honours

4.1 To qualify for the award of the BIT degree with honours as part of a combined degree, a student must:

4.1.1 complete the requirements for the pass degree;

4.1.2 complete the honours requirements published in the Resolutions of the Faculty of Engineering and Information Technologies relating to the BIT combined degrees.

4.2 To qualify for the award of Honours in the partner degree, either BA, Bcom, BMedSc or BSc, a student must

4.2.1 complete the requirements pertaining to Honours published in in the Joint Resolutions of the Faculty of Engineering and Information Technologies and the Faculties of Arts, Economics and Business, or Science, as the case may be.

SECTION 1 – APPENDIX 4: RESOLUTIONS OF THE FACULTY

Resolutions of the Faculty

Additional Resolutions of the Faculty covering the award of Information Technology and Science combined degree.

Resolutions related to admission, units of study, progression, assessment, credit, cross-institutional study, advanced standing and completion for all students enrolled in a degree in the Faculty of Engineering and Information Technologies are published in section 2 of the faculty handbook.

Combined Degree Specific Resolutions.

Bachelor of Information Technology and Bachelor of Science Combined Degree (BIT/BSc)

43. 1. Requirements for the Pass BIT and BSc awards

1.1 Candidature for this combined degree program is a minimum of 5 years of full-time study.
1.2 Candidates qualify for the two awards from the combined degree program (a separate testamur being awarded for both the BIT and the BSc) by completing the following:
1.2.1 a total of at least 240 credit points that include:
1.2.1.1 the program of units of study set prescribed in the BIT Table relating to the Bachelor of Information Technology stream that the student is pursuing; available streams are:
1.2.1.1.1 Computer Science
1.2.1.1.2 Information Systems.
1.2.1.2 at least 96 credit points of units from Science Faculty subjects;
1.2.1.3 a major in a Science area excluding Computer Science and Information Systems;
1.3 To qualify for the award of the pass degree in the Advanced or Advanced Mathematics stream of the BSc a student shall in addition to the requirements of resolution 1.2:
1.3.1 complete at least 54 credit points of intermediate/senior Science units of study of which at least 36 shall be completed at the Advanced level or as TSP units.
1.3.2 complete at least 24 credit points of senior Science units of study at the Advanced level or as TSP units in a single Science subject area, and
1.3.3 maintain in intermediate and senior Science units of study an average mark of 65 or greater in each year of enrolment.
1.3.4 majors in Computer Science and Information Systems are not available under the Advanced Science or Advanced Mathematics degree component of this program.

44. 2. Requirements for the BIT and BSc awards with Honours
45. 2.1 BIT with Honours
2.1.1 On completion of a total of 192 credit points, a student may apply to enrol for the Honours option of the Bachelor of Information Technology degree in accordance with the requirements set out in the resolutions of the Faculty of Engineering and Information Technologies relating to the Bachelor of Information Technology degree.
2.2 BSc with Honours
46. 2.2.1 On completion of the requirements for the combined degrees, a student may be qualified to enrol in Honours in the Bachelor of Medical Science. To qualify for the award of the BSc with Honours, a student must complete successfully an additional year of study (the Honours year), as specified in the Faculty of Science Handbook.
47.
3. Units of study
48. 3.1 The units of study, which may be taken for the combined Bachelor of Information Technology and Bachelor of Medical Science program, are set out in the Resolutions of the Faculty of Engineering and the Faculty of Science respectively.
3.2 The Faculty Resolutions specify:
3.2.1 credit point values;
3.2.2 corequisites/prerequisites/assumedlearning/assumed knowledge; and
3.2.3 any special conditions.
3.3 Candidates may not enrol in any unit of study which is substantially the same as one they have already passed (or in which they are currently enrolled).

4. Supervision of the degrees
4.1 Students will be under the general supervision of the Faculty of Engineering and Information Technologies for enrolment and administrative matters.
4.2 Students will be under the supervision of the Faculty of Science in relation to progression and eligibility of award of the BSc component and will be under the supervision of the Faculty of Engineering and InformationTechnologies in relation to the BIT component.

4.3 The Deans of the Faculty of Science and the Faculty of Engineering and Information Technologies shall jointly exercise authority in any matter concerning the combined course not otherwise dealt with in these resolutions.

49.

50. 5. Transfer arrangements

5.1 A student may abandon the combined BIT/BSc course and elect to complete either the BIT or BSc degree in accordance with the resolutions governing that degree.

SECTION 1 – APPENDIX 5: LIBRARY IMPACT STATEMENT

I have examined the Library needs related to the proposal and certify that existing Library holdings, staffing, services and accommodation are, or will be, **adequate/inadequate** to cover the demands that are inherent in it.
(If there are any concerns about library holdings, please address these.)

....
for the University Librarian **Date**

Further comments:

Holdings:

Services/Staffing:

SECTION 2: FEE REVIEW AND FEE SETTING

Faculty: **Engineering and Information Technologies**

Department/School presenting the proposal: **Information Technologies**

Faculty Contact person and/or: A/Prof Sanjay Chawla **Ext. No:** 13516

Academic Proponent **Email:** chawla@it.usyd.edu.au

2.1.1 Type of proposal: **New** ☒
Amended ☐ **Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.**
Deletion ☐

2.1.2 Type of course: **Undergraduate** ☒
Postgraduate coursework ☐
Postgraduate research ☐

2.1.3 Name of award course(s)
Name of **new** award course:
Bachelor of Information Technology/Bachelor of Science

2.1.4 Abbreviated name
BIT/BSc

2.1.5 Date of introduction or deletion
Introduced: Year 2009 Semester 1

2.1.6 Fee review and Fee-setting

2.1.6.1 Fees for Undergraduate award course:

Undergraduate award course	**Current fee band and fees** (per 1 EFTSU per annum)		**Proposed increase** (%)		**Proposed fee band and fees** (per 1 EFTSU per annum)	
	Local students	International students	Local	Int'l	Local students	International students
As for BIT	21 792	23 952				

PROPOSED BY:

Nominated Faculty Officer **Dean of Faculty (or Delegate)**

APPROVAL:

Provost and Deputy Vice-Chancellor/Vice-Chancellor
SECTION 3: COURSE INFORMATION FORM AND MARKETING PLAN

PART 1: COURSE INFORMATION FOR FLEXSIS

Faculty: **Engineering and Information Technology**

Department/School presenting the proposal: **Information Technology**

Faculty Contact person and/or: **A/Prof Sanjay Chawla** **Ext. No:** 13516
Academic Proponent **Email:** chawla@it.usyd.edu.au

3.1.1 Type of proposal: **New** ☒
Amended ☐ **Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.**
Deletion ☐

3.1.2 Type of course: **Undergraduate** ☒
Postgraduate coursework ☐
Postgraduate research ☐

3.1.3 Name of award course(s)
Name of **new** award course:
Bachelor of Information Technology/Bachelor of Science

3.1.4 Abbreviated name

BIT/BSc

3.1.5 Date of introduction or deletion
Introduced: Year 2009 Semester 1

3.1.6 Course code
Course code of existing award course for amendment or deletion:

3.1.7 CRICOS code
CRICOS code of existing award course for amendment or deletion:

3.1.8 Short degree description (e.g. for the UAC Guide):
B Information Technology/B Science

This course allows students to obtain an Information Technology degree and further enhance their career options by adding skills Science areas. It allows to complete up to two majors in Science areas such as mathematics, physics, biology, chemistry, geography or psychology – refer to 512040 B Science for the complete list. The B Information Technology degree is accredited by the Australian Computer Society. Honours is available within the BIT, or as an additional year in the B Science, to meritorious students.

3.1.9 Full degree description (e.g. for Faculty handbook):
The Bachelor of Information Technology/Bachelor of Science is a 5-year award course. Students must complete successfully units of study that total at least 240 credit points which include the program of units of study set out in the requirements relating to the Bachelor of Information Technology Major (Computer Science or Information Systems) and at least 96 credit points in Science units of study, including a major as defined in the resolutions relating to the BSc degree, and excluding the majors in Computer Sciences and Information Systems.

To qualify for the award of the pass degree in the Advanced or Advanced Mathematics stream of the BSc a student must complete in addition at least 54 credit points of intermediate/senior Science units of study of which at least 36 are completed at the Advanced level or as TSP units, complete at least 24 credit points of senior Science units of study at the Advanced level or as TSP units in a single Science subject area, and maintain in intermediate and senior Science units of study an average mark of 65 or greater in each year of enrolment.

3.1.10 Level of award:

Higher doctorate	☐
Doctor of Philosophy (PhD)	☐
Doctorate by research and advanced coursework	☐
Master's degree by research	☐
Master's degree by coursework	☐
Graduate Diploma	☐
Graduate Certificate	☐
Bachelor's degree	☒
Advanced Diploma	☐
Associate Diploma	☐
Diploma	☐
Certificate	☐

3.1.11 Is this an Honours course? Yes ☒ No ☐
Honours is available in both BIT and/or BSc.

3.1.12 If the proposal is for a new award course, please indicate if the new course is the result of new resolutions for an existing course? Yes ☒ No ☐

3.1.13 Name of award that will be conferred upon completion of course:
Bachelor of Information Technology/Bachelor of Science

3.1.14 If the proposal is for a new award course, please indicate which category the proposed course should be allocated to according to the DEST Field of Education and Discipline Area (available from the Courses and Fees Toolkit):

DEST Field of Education	02 and 01
DEST Discipline Area	TBA

3.1.15 Credit points required for the award: 240

3.1.16 Location/campus for student attendance:

Camperdown & Darlington	☒	Camden	☐	Cumberland	☐
Mallett Street	☐	St James	☐	College of the Arts	☐
Conservatorium	☐	Offshore	☐	please specify	

Hospital (please specify)

3.1.17 Are students enrolling in the proposed award course subject to:

Criminal Record Check	Yes	☐	No	☒
Prohibited Employment Declaration	Yes	☐	No	☒
Health Records & Privacy Information Declaration	Yes	☐	No	☒

3.1.18 Prohibitions:
Prohibitions apply at the unit of study level.

3.1.19 Articulation pathway (if applicable)**:**
Not applicable. However, students may complete with the BIT or BA if they have completed the requirements for each separate degree course.

3.1.20 Units of study offered in proposed award course:

(a). Existing units of study

126cp (21 UoS) from the Faculty of Engineering and IT

		CS Stream	**IS Stream**
IT core: 66cp (CS) and 72cp (IS)	1	Professional Engineering and IT (ENGG1805)	
	1	Intro to Programming (INFO1103) or Informatics (INFO1903)	
	1	Data Structures (INFO1105 / 1905)	
	1	Database Systems 1 (INFO2120 / 2820)	
	1	System Analysis and Modelling (INFO2110)	
	1	Management of IT Projects and Systems (INFO3402)	
	2	Major Development Project INFO3600 (12 cp)	
	1	Foundations of Computer Systems (ELEC1601)	Foundations of Inform. Technology (INFO1003)
	1	Algorithms and Complexity (COMP2007)	Information Systems (ISYS2140)
	1	Operating Systems and Machine Principals (COMP2129)	Introduction to Information Security (INFO2315)
	1	Senior IT UoS from selected core (3000)	Analytical Methods (ISYS3401)
IT selected core and recommended electives: 60cp (CS) and 54cp (IS)	1	Senior IT UoS from selected core or recommended electives (3000 level)	
	8	Coursework Option: 8 UoS from BIT 4th year selected core (4000 or 5000 level) Honours Option: INFO4990, INF04991, INFO4992 (12 cp) + 4 UoS from 4000 or 5000 level	

18 cp (5 UoS typically) from the Faculty of Science (Mathematics and Statistics)
SIT recommends 4 junior 3cp UoS and 1 intermediate 6cp UoS, i.e.:

12 cp	4	MATH1001, MATH1002, MATH1003, MATH1004, MATH1005 (3cp each)
6 cp	1	MATH2069, MATH2063, STAT2012

96 cp from the Faculty of Science

20 24cp from senior units of study for a major in a Science subject area (excluding majors in Computer Science and Information Systems)

21 72 cp of Science UoS (junior UoS which are prereqs for the senior UoS of the Science major or Science electives)

Examples

Example1: BIT Honours (major in Computer Science) + BSc (major in Bioinformatics)

	UoS 1	UoS 2	UoS 3	UoS 4
Y1;S1	Intro to Programming INFO1103	Professionalism in Engineering and IT ENGG 1805	Differential Calculus MATH1001 & Linear Algebra MATH1002	Chemistry 1A CHEM1101
Y1;S2	Data Structures INFO1105	Foundations of Computer Systems ELEC1601	Discrete Maths MATH1004 & Statistics MATH1005	Chemistry 1B CHEM1102
Y2;S1	Database Systems 1 INFO2120	Operating Systems and Machine Principals COMP2129	Intro to Molecular Biology and Genetics MBLG1001	Science elective
Y2;S2	Systems Analysis and Modelling INFO2110	Algorithms and Complexity COMP2007	Science elective	Statistical Tests STAT2012
Y3;S1	Object Oriented Design INFO3220	Artificial Intelligence COMP3308	Molecular Biology and Genetics A MBLG2071	Science elective
Y3:S2	Science elective	Computational Methods for Life Sciences COMP3456	Molecular Biology and Genetics B MBLG2072	Science elective
Y4:S1	Management of IT Projects and Systems INFO3402	Science elective	Bioinformatics and Genomics BIOL3027	Science elective
Y4:S2	Major Development Project INFO3600	Major Development Project INFO3600	STAT3014 Applied Statistics	BINF3101 Bioinformatics Project
Y5;S1	Research Methods INFO4990	Research Thesis A INFO4991	IT in Biomedicine COMP5424	Statistical Natural Language Processing COMP4046
Y5:S2	Research Thesis B INFO4992	Research Thesis B INFO4992	COMP4048 Information Visualisation	Data Mining COMP5318

Notes:
1. Counting for a major in Bioinformatics are BIOL3027, STAT3014, COMP3456 and BINF3101

Example2: BIT coursework (major in Computer Science)+ BSc (Adv) (major in Physics)

	UoS 1	UoS 2	UoS 3	UoS 4
Y1;S1	Intro to Programming INFO1103	Professionalism in Engineering and IT ENGG 1805	Differential Calculus MATH1901 & Linear Algebra MATH1902	Physics 1A PHYS1901
Y1;S2	Data Structures INFO1105	Foundations of Computer Systems ELEC1601	Integral Calculus and Modelling MATH1903 & Statistics MATH1905	Physics 1B PHYS1902
Y2;S1	Database Systems 1 INFO2120	Operating Systems and Machine Principals COMP2129	Linear Mathema-tics and Vector Calculus MATH2961	Physics 2A PHYS2911
Y2;S2	Systems Analysis and Modelling INFO2110	Algorithms and Complexity COMP2007	Science elective	Physics 2B PHYS2912
Y3;S1	Object Oriented Design INFO3220?	Artificial Intelligence COMP3308	Science elective	Science elective
Y3:S2	Scientific Computing COSC3911	Applied Linear Methods STAT3012	Science elective	Astrophysics and Relativity PHYS2913
Y4:S1	Management of IT Projects and Systems INFO3402	Science elective	Electromagnetism and Physics PHYS3940	Nanoscience/Plasma/ Thermodynamics PHYS3955
Y4:S2	Major Development Project INFO3600	Major Development Project INFO3600	Quantum Mechanics and Physics PHYS3960	Cond. Matter/High Energy/ Astrophysics PHYS3979
Y5;S1	COMP5348 Enterprise Scale Software Development	COMP4045 Computational Geometry	COMP5425 Multimedia Storage, Retrieval and Delivery	Statistical Natural Language Processing COMP4046
Y5:S2	Advanced Data Models COMP5338	Advanced Network Technology COMP5416	Information Visualisation COMP4048	Data Mining COMP5318

Notes:
1. Counting for a major in Physics are PHYS3940, PHYS3960, PHYS3955, PHYS3979 and COSC3911 (only 4 of them are required)

(b). New units of study

None.

SECTION 3 : COURSE INFORMATION FORM AND MARKETING PLAN

PART 2: COURSE INFORMATION FOR UNIVERSITY'S UNDERGRADUATE AND POSTGRADUATE COURSE DATABASE (FOR MARKETING PURPOSES)

3.2.1 UAC code: TBA (Undergraduate courses only)

3.2.2 CRICOS code: TBA

3.2.3 Career opportunities: Examples include IT careers in IT and Science specialising in research, consulting and technological solutions.

3.2.4 Areas of study: Computer Science, Information Systems, and all subject areas within the Faculty of Science, e.g. Mathematics, Physics, Biology, Chemistry, Geography, Psychology, etc.

3.2.5 Assumed knowledge: Mathematics or HSC Mathematics Extension 1. Other assumed knowledge depends on first year subjects selected.

3.2.6 Minimum education requirements:

Year 12 (senior secondary certificate) or equivalent	☒	Bachelor's degree (pass)	☐
		Bachelor (Hons)	☐
No minimum education	☐	Graduate Certificate	☐
Mature background	☐	Graduate Diploma	☐
Relevant employment experience	☐	Master's degree	☐

Additional information:

Honours is available within the BIT, or as an additional year in the B Science, to meritorious students.

The BIT/Bsc has been developed after consultation with industry to ensure graduates are equipped for the changes demanded in these dynamic areas. This 5-year combined degree provides students with a structured program of study in Information Technology and Science. All students undertake core units in areas including computer science, information systems, and selected Science areas.

3.2.7 If the proposal is for a Postgraduate award course, please indicate the course method:

Coursework	☐	Coursework with research pathway	☐
Research	☐		

3.2.8 UAI (for UG only) TBA;

BIT	2008	95.6
	2007	96.6
	2006	95.15

3.2.9 Additional admission selection criteria:
Candidates with considerable experience in computer programming may apply for entry by submitting a portfolio of their work to the School of Information Technologies, as well as

submitting a UAC application form. Portfolios will be taken into consideration if the candidate's UAI is slightly below the cut-off. The deadline for receiving the portfolio is 2 January 2009. If the candidates do not submit a portfolio by the closing date they will be considered solely on the basis of their UAI or equivalent. For further information or a portfolio entry application form, call the School on (02) 9351 3423 or visit www.it.usyd.edu.au

3.2.10 If the course is offered to international students please complete the following:

UAI International (for international students only): 95.6 (Undergraduate courses only)

Other international student entry requirements:

3.2.11 If the proposal is for a Postgraduate award course, please indicate the application closing date:
For local students, closing date for applications is
For international students, closing date for applications is

3.2.12 Will mid-semester intake be available for:

Commonwealth-supported students	Yes	☐	No	☒
Local fee-paying students	Yes	☐	No	☒
International fee-paying students	Yes	☐	No	☒

SECTION 3 : COURSE INFORMATION FORM AND MARKETING PLAN

PART 3: MARKETING PLAN

3.3.1 Marketing plan and strategy

The proposed award course will be marketed to prospective students via the UAC Guide, the International Office publications and website, and through student recruitment events targeting high school students conducted by the university, the faculty, and the school, e.g. SydneyUni Live, Information Day, meetings with career advisers and teachers etc.

APPROVALS

Nominated Faculty Officer **Dean of Faculty (or Delegate)**

SECTION 4: INTERNATIONAL STUDENT ADMINISTRATION REQUIREMENTS

Faculty: **Engineering and Information Technologies**

Department/School presenting the proposal: **Information Technologies**

Faculty Contact person and/or: A/Prof Sanjay Chawla **Ext. No:** 13516

Academic Proponent **Email:** chawla@it.usyd.edu.au

4.1.1 Type of proposal:
New ☒
Amended ☐ **Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.**
Deletion ☐

4.1.2 Type of course:
Undergraduate ☒
Postgraduate coursework ☐
Postgraduate research ☐

4.1.3 Name of award course(s)
Name of **new** award course:
Bachelor of Information Science/Bachelor of Science

4.1.4 Abbreviated name
BIT/BSc

4.1.5 Date of introduction or deletion
Introduced: Year 2009 Semester 1

4.1.6 Course code
Course code of existing award course for amendment or deletion:

4.1.7 CRICOS code
CRICOS code of existing award course for amendment or deletion:

4.1.8 Marketing plan and strategy

The proposed award course will be marketed to prospective students via the UAC Guide, the International Office publications and website, and through student recruitment events targeting high school students conducted by the university, the faculty, and the school, e.g. SydneyUni Live, Information Day, meetings with career advisers and teachers etc.

4.1.9 Availability of course

Will international students be able to enrol full-time?
Yes ☒ No ☐

4.1.10 Mode of study

Will international students be able to study the proposed course in "face-to-face" mode for at least 75% of the time each semester?
Yes ☒ No ☐

4.1.11 Incidental (ancillary) fees

Will the proposed course incur any compulsory costs other than tuition fees and compulsory subscriptions?
Yes ☒ If yes please indicate the amount Students are required to purchase course notes and text books where required. Additional cost is estimated at $80-100 per year of candidature.
No ☐

4.1.10 Commencement semester

Indicate whether entry to the course is possible in each semester.
SEM1 ONLY ☒ SEM1or 2 ☐ SEM2 ONLY ☐
If entry is permissible in Semester 2, please indicate whether subject choice will be restricted and whether the duration of the course will necessarily increase?

4.1.11 English language requirements

Will the minimum English language requirement for the proposed course differ from the usual requirements (i.e. overall IELTS score of 6.5 with a minimum of 6.0 in each band)?
Yes ☐ If yes please indicate IELTS equivalent
No ☒

51. APPROVALS

……
52. Dean or delegate

The Proposed Course is suitable for CRICOS registration and International Office processing.

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Director International Office

SECTION 5: OFFICE OF STRATEGY IMPLEMENTATION AND SUSTAINABILITY PLANNING

Faculty: **Engineering and Information Technology**

Faculty Contact person and/or: A/Prof Sanjay Chawla **Ext. No:** 13516

Academic Proponent **Email:** irena@it.usyd.edu.au

5.1.1 Type of proposal: **New** ☒
Amended ☐ **Please note if the proposal is changing the course name, for example Bachelor of ABC to Bachelor of AB (C) then this is a NEW course.**
Deletion ☐

5.1.2 Type of course: **Undergraduate** ☒
Postgraduate coursework ☐
Postgraduate research ☐

5.1.3 Name of award course(s)
Name of **new** award course:
Bachelor of Information Technology/Bachelor of Science

5.1.4 Abbreviated name

BIT/BSc

5.1.5 Date of introduction or deletion
Introduced: Year 2009 Semester 1

5.1.6 Estimated percentage distribution of load across departments in one or more faculties:

Faculty	Department	Estimated percentage of load
Engineering and Information Technology	**IT and EIE**	**52.5%**
Science	**various**	**47.5%**

5.1.7 Number of semesters required to complete the course in minimum time **10**

5.1.8 Estimated student enrolments (i.e. head count)

Estimated student enrolments		2009	2010	2011
Commonwealth-supported places	Full-time	20	25	30
	Part-time			
Local fee-paying	Full-time	5	5	5
	Part-time			
International fee-paying	Full-time	5	7	10
	Part-time			
Total student enrolments		30	37	45

5.1.9 For undergraduate degrees only, please indicate the expected 'carry-on' rate from one academic year to the next. 1005
e.g. the number of students in first year in year 'n' expected to re-enrol in second year in year 'n+1'.

5.1.10 IMPORTANT The University operates within a fixed target for Commonwealth-supported Place (CSP) load. Any new course proposals which include intakes of CSP (HECS) students must be accompanied by an indication of a corresponding reduction in the CSP intake to another degree of similar duration offered within the same Faculty.
Details of proposed reduction:

APPROVALS

Nominated Faculty Officer **Dean of Faculty or delegate**

CONSULTATIONS and REFERENCESH

Summary of Focus Group for Proposed BIT/BSc Degree, School of IT, 11 February 2008

Summary of Focus Group for Proposed BIT/BSc Degree

SCHOOL OF IT, 11 FEBRUARY 2008

BACKGROUND

In response to the success of the new 5-year combined BIT/BCommerce degree, the School wishes to build on the demand for combined IT degrees by introducing the combined BIT/Bachelor of Science degree. As with the BIT/BCom, the BIT/BSc degree is intended to provide a small group of 10-20 students with a 95-plus UAI the opportunity to acquire in-depth knowledge and skills in IT as well as a specialisation in any Science area, for example, mathematics, physics or biology. This degree would also allow combinations with the BSc (Advanced) and the BSc (Advanced Mathematics) degrees.

PURPOSE OF THE FOCUS GROUP

The group was constituted to help ascertain the potential interest of students in enrolling in the proposed course.

GROUP MEMBERS

A doctoral student, a recent high-achieving honours graduate, a current honours student and an undergraduate student were asked to comment on the proposed degree. The participants were given a sample degree enrolment outline for reference.

QUESTIONS AND SUMMARIES OF RESPONSES

53. If you were entering an undergraduate degree program now, what would be attractive to you about this degree and why?

One participant said that this is the degree he would have chosen to enrol in, had it been available when he commenced university study. Another participant agreed that this degree would allow students with an interest in both science and IT to pursue these interests without having to overload semesters with extra subjects.

“I think this degree is a good idea because this isn’t a science degree with, maybe, 24 credit points of senior Computer Science and first and second-year random science, this is a science degree plus an IT degree so you have that focus in senior science as well as an IT area.”

“It’s a very good degree for getting into research, especially if you want to do research in a science area, but you also have the IT backing to make your work all computer-based.”

“There’s no other real option like this. If you do the BE/BSc, you’re much more limited, you live in the Engineering Faculty, you’re much more limited in terms of what you can do in the sciences. For me in my [Science] degree, I had to choose only the core IT subjects and throw the rest away, so it’s nice that you can do everything here.”

54. What would you want to know about before starting the degree?

The group agreed that employment opportunities at the end of this degree were extremely important.

“When do I have to decide my Science major?”

55. What is not in the degree that you would like to see there? What would you want to happen during the course?

"Is there any reason why, for fifth-year coursework [in the degree], you wouldn't be able to do any 4000- or 5000-level Science subjects?"

56. On completing such a program, what would you see as your likely career path?

"An academic career."

"Being able to complete streams in both Information Systems and Computer Science would be quite good for IT and project management."

"The drug design industry, where you can use your Science background and your project management experience from the IT side, which you don't really get much of in the Science degree, and at the same time you also have some IT experience, as IT is getting bigger, with modelling drugs and such."

"Working in IT, or working in science research with a computational slant."

57. SUMMARY OF MAIN THEMES AND QUERIES

58. TSP eligibility

One student asked whether BIT/BSc students would be eligible for the Science Talented Student Program.

59. Undertaking Computer Science and Information Systems streams/majors

One participant was interested to know whether a student could undertake the Information Systems stream in the BIT, and also a major in Computer Science as part of their BSc component. The group agreed that being able to complete both of these streams in this degree would be useful and would improve the employability of graduates.

The appeal of studying Science and IT together

Some participants commented that their personal desire to undertake Science and IT units was hindered by the degrees available, and that this combined degree would allow students the space to enrol in and specialise in science subject areas and also to pursue IT in depth.

Science Honours

A participant queried whether the Bachelor of Science honours year could be incorporated into the five years of the combined degree.

Elective units

Some participants asked for clarification on the type of elective units (eg. Science, IT, Arts, etc.) permitted in this degree.

The value of group work to employers

It was agreed that group work, which is very important to IT, is also relevant to and valued in other fields.