



KIFT ALTC SENIOR FELLOWSHIP: ARTICULATING A TRANSITION PEDAGOGY

INFORMATION TECHNOLOGY CASE STUDY

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The process of conceptualising, designing and developing the program, its subjects and their content included: a SWOT analysis, development of a working vision and key principles, identification of core skills and knowledge, grouping these into knowledge packets (which formed the foundations of subjects), mapping skills and knowledge against QUT's graduate attributes, structuring the graduate attributes over the duration of the program, incorporating and balancing a variety of teaching and assessment approaches.



1. CONTEXT

01. Queensland University of Technology (QUT) is a multi-campus (three at the time of writing) commuter university. It has 39,000 students, which converts to a full time student load (EFTSL) of 28,500. QUT harnesses its 'Real World' branding to foster close engagement with industry and the professions. QUT's reputation for industry strength programs and the 'Real World' image attract students with professional aspirations and career goals into a wide variety of disciplines. In these disciplines (represented by QUT's faculties of Law, Education, Science, Health, Business, Engineering, the Creative Industries and Information Technology (IT)) professional practice is enhanced through the application of information and various technologies.

02. QUT's Faculty of IT attracts the majority of students choosing to study IT in Queensland (Queensland Tertiary Admissions Centre (QTAC) data shows that more than 50% of all students choosing to study IT have a QUT program as their first preference). Data from a qualitative survey of students commencing in the Faculty of IT indicates the reasons behind this majority are typically related to the reputation of the programs and/or because the student knows someone who is/was studying/studied in the faculty or knew of the faculty's programs.

03. This case study describes the first year of a completely new undergraduate program within the Faculty of Information Technology — the Bachelor of Corporate Systems Management (BCSM); an 'IT degree for business thinkers'.

04. The author led the program design and the development of the subjects¹ and was the Program Coordinator in 2007, the first year the program was offered.

05. The BCSM was initiated in response to a number of recent trends impacting on the Information and Communication Technologies (ICT) sector:

- A national trend towards business-oriented IT employment and away from technically-focused IT jobs; compounded by outsourcing of IT production (technical) activities to global organisations located off-shore.
- A global IT skills gap, which in Australia had been investigated and reported federally and by the Victorian and Queensland State Governments.
- A decline in the number of students choosing to study IT at secondary and tertiary levels, accompanied by drastically low numbers of education students taking IT as their teaching area.
- A critical gender imbalance in IT programs and employment.
- Calls from Queensland-based industry (in general) and representatives on the industry-based Faculty Advisory Board for a new type of IT graduate.
- A national discussion about IT curricula (The Australian Computer Society is developing a new IT Curriculum Framework in conjunction with academic partners).

06. The process of conceptualising, designing and developing the program, its subjects and their content included: a SWOT analysis, development of a working vision and key principles, identification of core skills and knowledge, grouping these into knowledge packets (which formed the foundations of subjects), mapping skills and knowledge against QUT's graduate attributes, structuring the graduate attributes over the duration of the program, incorporating and balancing a variety of teaching and assessment approaches.

07. From a faculty and industry perspective the program aimed to:

- attract students who would not have traditionally considered IT programs
- respond to concerns about the knowledge and skill sets of new graduates
- contribute to redressing the gender imbalance.

¹ A presentation summarising the development process is provided in Appendix I.

08. From a curriculum perspective the overall aim of this program is to provide students with the knowledge, skills and experience that will allow them to mediate between the business areas of organisations requiring information and technology systems, services and support and the ICT departments or organisations that create, provide and maintain these facilities.

09. Within this overall aim the first year of the program had clear objectives:

- Support students in their first year of study at university, which includes (but is not limited to):
 - monitoring indicators of learning engagement (for example, participation and performance)
 - easy access to program coordinator and program staff
 - cohort building activities.
- Introduce students to the fundamental theoretical construct (Systems Theory) underpinning the study of information systems so that they have a foundation for understanding and explaining the complexity of ICT deployment within organisations.
- Assist students to understand the roles of information systems, sources and services within contemporary organisations.
- Familiarise students with the roles performed by information systems personnel within contemporary organisations.

10. The Overall Position (OP) entry for the 2007 and 2008 entry cohorts was 1–13, with approximately 30 students entering the program in each intake. An additional five students transferred into the BCSM first year from other Faculty of IT and QUT programs at the beginning of semester 2 2007.

11. The entry requirements included assumed knowledge in senior high school Maths A, B or C², and four semesters of satisfactory achievement in English. The female to male gender balance is 30:70 compared with the faculty's traditional IT program, which is approximately 10:90.

12. Students commencing the BCSM in 2007 told us that they would not have taken a traditional IT program and that they took this program instead of taking another degree (for example, in business studies) because they saw the advantages of having a specialised knowledge set that was in demand in the workplace.

13. Agreements have been negotiated with a number of institutions of Technical and Further Education (TAFE) for advanced standing entry. Credit for prior learning of up to 96 credit points (8 subjects) is given for the complementary studies

component of the BCSM in preference to the core subjects. Credit for prior qualifications is rarely given for any of the first year core subjects.

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2. TRANSITION

ACKNOWLEDGING THE TRANSITION PERIOD

14. BCSM students are considered to be in a transition process until they have completed the equivalent of the whole first year of the curriculum. (Effectively this period extends from accepting an offer until they have completed 96 credit points.) Two factors impact on the actual period of transition: (1) attendance at university for two consecutive semesters, and (2) the completion of the first year of

² Traditionally, ICT programs value proficiency in mathematics based problem-solving techniques and these are often seen as a prerequisite by students and staff alike. This program had a different view about the approaches used to resolve business problems and wished to attract students who had strengths in the analytical processes arising from non-mathematical disciplines.

the curriculum. Anecdotally, we consider that the first two semesters of attendance (exposure to the environment) appears to be the more dominant factor compared with completion of the 96 credit points.

15. However, the complexity of individual transition experiences makes it difficult to predict how long the actual transition period for an individual lasts. Therefore, the entire first year of the program (based on a standard full-time progression of four subjects each semester) is designed to accommodate students in transition to university.

16. We also acknowledge that the transition into university period commences much earlier during the senior years of high school when students hear presentations about universities and about the programs on offer. The BCSM Program Coordinator plays an integral role in this process by meeting and discussing the program with potential students and providing a consistent line of contact through school visits, QUT events and on to orientation and week 1 of semester.

SUPPORTING THE TRANSITION PROCESS – ACCESS TO SUPPORT

17. Prior to orientation, all commencing students are assigned a peer mentor following QUT's Welcome Mentoring program. Welcome mentors contact their mentees during the week before orientation and every subsequent two weeks using email. The mentors record inbound contact from the mentees and note the types of queries. Informal mentor and mentee drop-in sessions (with the obligatory lunch!) are organised and promoted and well patronised. Academic staff are also encouraged to attend these sessions to interact informally with students.

18. Orientation for Faculty of IT students is compulsory, with attendance rates generally between 85 and 90% or more of expected commencing students. The faculty employs experienced students who act as orientation facilitators (many of whom also assist students in transition by working in a voluntary capacity as mentors).

The format of orientation maximises interactions between the facilitators and commencing students while minimising the amount of talking head information provided in lecture style format. The small group sessions are facilitated by students from the same program whenever possible, although in the first offering of the degree students undertaking a double degree in IT and Business facilitated the BCSM cohort.

19. Orientation includes a short introductory session (~10 minutes) with the program coordinator who reiterates the aim and broad purpose of the program. The introduction to the program also uses a simple diagram³ that plots the journey of a student in first semester, so that students are provided with some insight into the various stages that they may experience. This message is reiterated in at least one of the first semester subjects. The program coordinator also attends the first lecture in the *ITB360* core subject to explain the program structure and the purpose of each of the subjects students will undertake in their first year (with more attention paid to semester 1) and how the subjects relate to the program and, importantly, to the IT profession (that is, provides the program 'roadmap' — a modified version of the graduate attribute matrix). The program coordinator also explicitly states that his/her role is to support students undertaking the program and that they are available and accessible for all students to discuss any issues as they arise.

SUPPORTING TRANSITION – DEVELOPING A SENSE OF COHORT

20. There is a program 'community site' on the online learning system 'Blackboard'. This site hosts the industry/organisational case studies and other material that help students understand the inter-relationships between the topics, subjects and the overall program aims and objectives.

21. A series of just-in-time emails are used to communicate with students weekly during the early part of the semester (prior to orientation week and to mid-semester) and

³ The 'semester progress' slide is shown in Appendix II.

then less regularly but at key points (for example, census dates, prior to exams, etc.) during the remainder of the semester. Students also have access to a discussion board, which the program coordinator monitors but does not manage.

22. The statistics tracking allowed by Blackboard shows that students are active on the site when subject activities involve reference to the case studies: that is, the site is used for learning rather than communication activities. The absence of co-curricula site use may be because the cohort is relatively small and there are high levels of interaction with program teaching staff during class time.

SUPPORTING TRANSITION THROUGH THE CURRICULUM

23. In designing the program, particular attention was paid to the structure of subjects in the first year in terms of ensuring their learning objectives were aimed at supporting transition and the acquisition of learning skills. For example:

- The role of the introductory subject *ITB360* is to fulfil the promise we make to graduates in the marketing of the degree ('IT degree for business thinkers'). This subject focus aids students coming to understand the role that IT and IT people perform in supporting the key organisational business activities (operations, decision making and planning).
- One of the analytical skills required of IT graduates is the ability to elicit information from clients about information or systems needs. In *ITB360* students are introduced to interviewing techniques in a workshop and work through a process to plan and conduct an analytical interview with personnel from the organisations

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represented in the BCSM program case studies.

- Various and different 'getting to know each other' activities occur in *ITB002* (the faculty core subject) and *ITB360* (the BCSM cohort subject).
- In *ITB360* existing preconceptions that students may have about the types of work the IT profession does, or the types of people working in IT roles, are explored in detail. Students are also provided with the opportunity through a career planning module to explore their own backgrounds and career expectations.⁴
- While *ITB360* helps students understand the roles performed by IT people in organisations, *ITB002* introduces and develops the teamwork (including conflict resolution) and communication skills (interpersonal, written and oral) required of IT professionals.

- *ITB002* has an early item of assessment which is used to provide formative feedback, monitor participation and trigger interventions (connection of student with the appropriate support service).
- Attendance in class is monitored weekly in *ITB360* and *ITB002*.

3. DIVERSITY

24. In an ICT context, membership of at-risk or equity groups focuses on students who would have traditionally not taken ICT programs during their senior years at high school or at university. In particular, these groups include students from the non-traditional entry paths (not through senior mathematics or information technology programs) and young women. The program did not offer any external mid-year entry;

⁴ This process has had a positive outcome where one student came to understand that his desired career path was not in IT.

however, a small number of students from technology-intensive programs did enter in mid-2007.

25. Care was taken in the design of activities not to alienate students by gender or their 'non-geekiness' (that is, natural disposition towards computing). For example, only two of the first semester subjects had activities based in computer labs and these activities did not assume any prior experience with the IT environments being used.

26. The participation of all students in their pre-learning (orientation) and learning activities was managed during their first year. This process focuses on the early detection of students who may be at-risk of disengaging in their learning and proactive contact with these students to connect them with appropriate 'life' or 'learning' support services. Three students were identified as at-risk (10%) in the first year. One was suffering from a previous trauma and was connected with disability services. Another came to the realisation that he was not in the 'right' program but wanted to remain at university if possible.⁵ Negotiations with another discipline enabled a program to be structured for him that would offer him credit in his new program for the subjects he was undertaking in the BCSM. The third student required intensive ongoing counselling support.

27. Students had the opportunity to explore their career paths in *ITB360*, which had embedded career modules in the curriculum. These modules prompted students to reflect on major influences and influencers in their lives, to think about the types of 'work' activities they preferred to do, and explore how their individual needs might be met by a variety of career streams. The young man mentioned above indicated that these explorations helped him identify his desired career path.

28. Learning style diversity was also accommodated in the approaches to the subjects and the types of assessment items. For instance, some subjects followed the traditional 2-hour lecture, 1-hour tutorial model; others involved self-directed learning activities followed by 2 hours of structured workshop; and others followed

a 1-hour lecture followed by 2 hours of task-based practical classes in computer laboratories. At least one subject contained oral assessment items. One had a team based assignment. In another subject, the students worked in the classroom in groups but there were no dependencies between them in terms of assessment. One subject awarded marks for weekly participation in class and encouraged students who were not so keen to speak to augment their marks through a reflective journal. Other subjects contained weekly tasks that were submitted for assessment.

29. Two of the key concerns for commencing students at QUT are academic literacy and teamwork, and so based on this knowledge two subjects integrated material that explicitly focused on developing academic skills and information literacy. The first introduced the notion of academic writing incorporating the use of reliable sources and acknowledging these sources. The second included a series of virtual and physical 'library' workshops and were designed collaboratively by the subject coordinator and IT reference librarian.

30. Adherence to and participation in the early and weekly assessment items was used as part of the monitoring student engagement process to identify individual students requiring additional support or inappropriately designed aspects of the curriculum.

31. The program group met every two weeks during the first year of the program to share ideas and to adjust content or delivery strategies as required in response to feedback, identified issues, or staff or student concerns.

4. DESIGN

32. The structure of the program is explicitly designed to assist transition and scaffold learning. It has four core subjects in first semester so the students can pre-enrol and all students follow the standard program. In the second semester of first year there are a further three core subjects and one elective subject that students choose from

⁵ See previous footnote.

their complementary studies discipline. The structure of the whole program is shown in the table below.

33. The core subject structure extends through to the third year allowing for the progressive scaffolding of graduate attributes, with particular attention being paid to developing the generic attributes within an ICT environment during the first year.⁶ The table below shows the recommended program structure — the core subjects are shown in the shaded cells. The subject codes starting with 'IT' arise from the Faculty of Information Technology, while the 'B' and 'M' subjects arise from the Faculty of Business.

	Semester 1	Semester 2
Year 1	<i>ITB360 Corporate Systems</i>	<i>ITB363 Project Management Practice</i>
	<i>ITB361 Socio-technical Systems</i>	<i>ITB364 Information Systems Development</i>
	<i>ITB362 Organisational Databases</i>	<i>BSB115 Management, People & Organisations</i>
	<i>ITB002 IT Professional Studies</i>	Complementary studies
Year 2	<i>ITB365 Business Analysis</i>	<i>ITB823 Web Sites for E-commerce</i>
	<i>ITB366 IS Operations</i>	<i>MGB223 Entrepreneurship and Innovation</i>
	<i>BSB126 Marketing</i>	Complementary studies
	Complementary studies	Complementary studies
Year 3	<i>ITB298 Process Modelling</i>	<i>ITB370 Project / Cooperative Education</i>
	<i>ITB264 IS Consulting</i>	<i>ITB233 Enterprise Systems Operations</i>
	Complementary studies	Complementary studies
	Complementary studies	Complementary studies

34. Consistency and expectations between the first year subjects is achieved by cross-fertilising assignment requirements, format and language, marking criteria and performance standards. For example, the formal written report structure, marking criteria and performance standards introduced in *ITB002* are re-used (with minimal contextual modifications) for written assignment items in concurrent and subsequent subjects. The criteria and performance standards for reflective commentaries and oral presentations is similarly shared.

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35. Coherence in program design is further exemplified as follows:

- In *ITB361* we introduce the core theoretical construct — socio-technical systems theory — underpinning the study of information technology in organisations. This subject uses an inverted curriculum model where real ICT products such as

mobile phones, surveillance cameras, MP3 players, personal satellite navigation systems are investigated as examples of socio-technical systems implementations. Students are introduced to the two constructs: the social and the technical, by examining the role of these artefacts in contemporary society, building from the 'real' to the theoretical model.

- *ITB361* students record blog entries related to weekly classroom activities and discussion. Constant feedback on these blog entries is provided in terms of demonstrated understanding of concepts whereas marks are awarded for completing an entry and how well the response addresses requirements.
- E-portfolio is introduced in *ITB360* and students use it to record career-related material, record aspirations and store artefacts in this subject and are encouraged to continue using it in subsequent subjects.

6 Please see the graduate attribute mapping attached in Appendix III.

- Students explore their personal learning styles and identify complementary strategies in *ITB002* using a VARK module.
- Industry participation is designed into the curriculum and occurs throughout the first year (and subsequent 2nd year subjects: *ITB366*, *ITB264*, and 3rd year subjects *ITB298*, *ITB370*) in:
 - *ITB002* (focus = ‘why professional skills (communication and teamwork) are important for IT professionals’).
 - *ITB360* students conduct interviews with industry personnel (representing the case studies) to elicit information about how ICT is used in their organisation and the types of work performed by the IT groups.
 - *ITB362* lectures are provided by a senior database administrator/managers in the case study domains.
 - *ITB363* Q&A sessions are facilitated with industry project managers about their experiences with managing various project issues (for example, risk, change processes, resources, time, budget ...).
 - *ITB364* students perform a systems analysis and design activity for an industry project related to the case studies.
 - *ITB365* students working with real world clients build on their analysis and design skills to perform a business analysis and develop a business case for an industry project.
 - *ITB264* involves industry IT specialists who address the group about particular IT consulting challenges, which are then further explored in team assignment work.
 - *ITB298* students learn how to model business processes related to particular aspects of the industry case studies.
 - In *ITB370* (a capstone subject) students will perform an end-to-end industry strength project for a ‘client’ under the supervision of an academic supervisor.

5. ENGAGEMENT

... organisational case studies are used as proxies for experience, to frame assessment items, and as a common reference point across the program. The case studies are designed following a common template and small subject-specific vignettes are planned to address more advanced subject-specific content ...

36. The ability to engage students in their learning is central to the design of the BCSM. Lectures, structured workshops and practical (computer lab) activities in the first year (and other subsequent subjects) revolve around a series of organisational case studies which represent the common domains of IT application: finance and banking (Suncorp), primary industries and mining (BHP-Billiton Alliance), creative industries (Rising Sun Pictures) and government (Brisbane City Council). These organisational case studies are used as proxies for experience, to frame assessment items, and as a common

reference point across the program. The case studies are designed following a common template and small subject-specific vignettes are planned to address more advanced subject-specific content (for example, business issues vignettes used in *ITB298* process modelling).

37. Introductory lecture materials in each subject follow a similar format where the

first few slides clearly show ‘where have we been’ and ‘where are we going’ as a way of making connecting topics both forward and backwards.

38. Students work in collaborative groups in *ITB360* and *ITB363* (but there are no dependencies in terms of assessment) and in teams in *ITB002* and *BSB115*. There is extended contact time in small classes (that is, in general lectures are 1 hour and small class sessions are 2 hours (3 hours in *ITB002*). The extended contact time somewhat negates the need for supplementary sessions in the smaller subjects however Peer Assisted Study Sessions (PASS) are available for students as part of *ITB002*, the large core subject in the faculty.

39. There were no double degree students in the program in 2007. In 2008 double degrees with Business and Justice Studies were offered. The plan is to introduce case studies aligned with the disciplines of the double degree offerings to assist students make the connection between the study of IT and the study of the application domains. The QUT standard double degree structure of 16 subjects from each discipline is utilised. Students progress through both their programs by taking two subjects from the BCSM and two subjects from the second degree each semester.

40. The Faculty of IT has a dedicated Student Support Officer (SSO) who works with students who self-identify as being at-risk or who are referred by a subject coordinator. The SSO helps at-risk students develop plans for their study and liaises with program and subject coordinators on behalf of students if necessary. The SSO also refers students to specialty support services (for example, disability services or counselling) as appropriate. The ‘monitoring engagement’ and active intervention system put in place for this degree (for example, recording attendance, early assessment items and weekly online activities) means that first year students who are at-risk of disengaging are able to be identified early and the most appropriate type of support can be provided in a timely manner.

41. The Faculty of IT has a dedicated space — ‘The Green Room’ — ostensibly for the use

of first year students as a common room/ social space. Faculty staff are not permitted to book the room for faculty events nor enter the room without first asking the students for permission. The room has movable tables and chairs to facilitate students working in groups and fixed desks with computers around two walls. The other walls have notice boards and white boards for messaging. A lounge area is set up in one corner with comfortable chairs, futons and couches while another corner has a large screen fixed to the wall and is used by students with the two popular video games consoles and handsets that are also provided. Specific evaluation of the room has not been carried out to date. However, the response in a qualitative survey of approximately 350 commencing students to the question ‘what is the best thing about studying IT at QUT?’ was ‘The Green Room’.

42. Observation over the last three years since the room was opened is that it is well used (constantly occupied throughout the week), appreciated (the only adverse incident occurred when a common internet game ‘went live’), and is seen as a benefit of being a student in the Faculty of IT compared with other faculties without similar facilities.

43. A particular form of staff–student collaboration occurs in *ITB363* and *ITB366*. These subjects are designed around a flexible teaching model that uses a series of ‘learning packets’ (PowerPoint slides with accompanying audio recordings and topic notes), which students listen to before coming prepared to their 2-hour in-class session (with the exception of week 1, where the process is explained). In the first hour of class time, the lecturer works with the students to apply the material from the learning packets to the case study or practical example being utilised in that subject. Graded participation tokens for contributions that add value or insight to the discussion are used as rewards. These tokens are converted to participation marks which are recorded for each student each week. A variety of techniques are used to encourage everyone to participate in this process. These include: small group and peer-to-peer discussion and feedback,

post-it notes (write it down, post on the wall or pass around the class for reading out loud), dividing the class into larger work groups to work on different topics and so on.

6. ASSESSMENT

44. The guiding principle for assessment in the first year of this program is that the primary role of assessment is to assist students in the acquisition of their knowledge and skills; that is, assessment *for*, over assessment *of*, learning. The principles for program design required that attention was given to both assessment design and implementation and would include a range of assessment modalities including:

- assignment communication format (for example, written, oral, visual, task based)
- type of media (for example, paper, system, electronic)
- balance of formative and summative assessment items
- team and individual work (only one subject requiring teamwork in each semester of the standard program)

- assignment and examination (two subjects each semester to have ongoing assessment, two subjects to have examinations)
- diagnostic items are used and outbound contact is made with students after two successive non-submissions/failure of the weekly items or non-submission/failure of the week 4 assessment item. Specific examples of assessment in this regard include:
 - *ITB361* subject has weekly online entries that can be used for monitoring participation and understanding
 - *ITB002* has an individual assessment item (a reflective learning log) due in week 4.

45. Explicit attention was also given to building knowledge and skills in subsequent assessment items throughout the core of the program by focussing on the concepts, materials, knowledge skills and techniques encountered in the earlier (first year) assessment items and making these links explicit to students.

46. Descriptions of the assessment items appearing in the core subjects in the first year of the program are provided in the table below.

Subject code and name Key characteristics of assessment	Type of assessment (indicative weightings)	Brief description
Semester 1		
<i>ITB360</i> Corporate Systems • all individual assessment relating to the series of case studies • IT personnel participate as interviewees and guest lecturers	Online module tasks (30)	Exploration of career and self.
	Journal recording preparation for interviews and interview technique (30)	Chronological commentary of own preparation for a conduct of interview. Also comments on the role played as a member of a group acting collectively.
	Report (40)	Formal report comparing the findings of two interviews of industry representatives.
<i>ITB361</i> Socio-technical Systems • all individual assessment • students examine contemporary artefacts (for example, mobile phones, MP3 players) to introduce and understand theory	Blog entries (weekly) (30)	Exploration of artefacts to distil the underlying concepts of socio-technical systems.
	Case study (40)	Building on weekly blog exercises. Incorporates a literature review (from weekly exercises) to relate the attributes of real-life artefacts to socio-technical systems.
	Reflective journal (30)	Explores why socio-technical systems theory is useful to IT practitioners.
<i>ITB362</i> Organisational Databases • all individual assessment • working with a real database	Database tasks (30)	Weekly tasks developing queries to extract information from a database.
	Report of investigation (30)	Comparison of two different types of systems used to store organisational information (for example, document repository and a human resources database).
	Final exam (40)	Principles and concepts.

Subject code and name Key characteristics of assessment	Type of assessment (indicative weightings)	Brief description
ITB002 IT Professional Studies 60% individual assessment 40% teamwork assessment Teamwork project produces deliverables related to designing an event Web site conducted according to a standard IT systems development method.	Learning log (30): <ul style="list-style-type: none"> individual assessment criteria emphasise structure, format and style of academic writing over content. 	Early assessment item in week 4. Responses to weekly questions with the option of entering these responses in an e-portfolio.
	Final test — individual (20)	Style of questions covers the first 5 levels of Blooms taxonomy.
	Reporting on team processes and contribution (10): <ul style="list-style-type: none"> online system individually assessed 	Recording participation in meetings and tasks accomplished. Self and peer performance assessment. Reflection on contribution to team process and tasks.
	Team Project ⁷ (40): <ul style="list-style-type: none"> assessed as a team analysis report visual design oral presentation 	A series of project deliverables related to the team project.
Semester 2		
ITB363 Project Management Practice <ul style="list-style-type: none"> all individual assessment 	Draft project management plan <ul style="list-style-type: none"> formative (20) 	Developed through class and group discussions. Feedback provided on outline which is annotated to explain what content will be addressed in each section.
	Final project management plan (50): <ul style="list-style-type: none"> summative 	The draft plan developed after feedback on structure and content.
	Contribution to subject/participation (30) — with optional additional reflective journal (10): <ul style="list-style-type: none"> formative 	Tokens are used as rewards for adding value to class discussion. These tokens are converted to marks up to 30% of the subject. Students may elect to improve their participation mark at the end of semester by handing in an additional reflective commentary worth 10% (one third of the assessment item).
ITB364 Information Systems Development <ul style="list-style-type: none"> all individual assessment 	Systems analysis (30)	Deconstruction of a simplified corporate system to identify the system components; the business functions and/or processes that are supported and the issues relating to the system's design and implementation.
	Systems development (40)	Develops some system components that can be incorporated into a partially completed system (supplied). Includes developing some systems documentation, for example, a test plan and an outline of the user guide.
	Final examination (30)	Theory and concepts.
BSB115 Management, People & Organisations <ul style="list-style-type: none"> 25% individual 75% group work 	Tutorial activities and team report (25)	Applying the key concepts and principles introduced in the subject.
	Individual essay (25)	Focusing on development of information literacy and written communication skills.
	Final examination (50)	Theory and concepts.

47. A variety of approaches is used to provide feedback on assessment items including:

- peer and tutor review of work scheduled during class time
- present or practice draft material (for example, oral presentations) for review during class time
- comments on drafts are provided during consultation hours
- comments on individual blog entries or on written assignments
- annotations on the criteria reference sheet
- summaries of what was done well/how to improve provided to cohort in lectures
- discussion about assessment during small class time.

7 The subject outline, week 1 document and the team project assessment requirements documents all state that team marks will be adjusted to reflect evidence of inequitable team contributions. It is rarely applied as the criteria for grades in the subject require students to demonstrate active team participation. A comparison of each student's individual contribution with their teamwork contribution to their final marks is performed at the end of the semester. This process enables identification of students who have inequitably gained or lost standing in the teamwork. The results of students who are borderline (just above or below) on a grade, and students who have gained more than 10% of their marks are scrutinised in detail. This scrutiny triangulates tutor feedback on their participation in class, their individual participation in the online system, peer and self-performance evaluations and their overall performance. An adjustment of grade may result from this process.

- individual/team consultation sessions to discuss assessment.

reflective journal was introduced after discussion with the class.

7. EVALUATION AND MONITORING

48. The strategies and processes used to monitor student engagement are integral to the subject design and seamlessly integrated into the curriculum and pedagogical approaches. Many of them have been mentioned previously in this case study but are summarised again here. Partnerships are in place with faculty professional staff and specialist support providers to ensure that students showing signs of disengagement are connected with the appropriate service.

Curriculum	Pedagogy
Early classes are designed to check that all students can access the learning environment, materials and tools.	Attendance rolls.
Early/weekly assessment items.	Knowing each student by name.
Peer and tutor review of assessment items are scheduled into class time.	Getting to know each other (students and staff participation) activities.
Identification, ongoing monitoring and proactive interventions of students identified as 'at-risk'.	Formal and informal formative feedback on assessment items to individual, group and cohort levels.

49. The program is now in its second year. Evaluations of each of the first year subjects and other aspects of the program have been performed. In particular, evaluation of the two subjects *ITB363* and *ITB366* (previously offered as an elective subject), which use a self-directed learning packet followed by 2 hours of workshop, were conducted. Notably, attendance in these sessions was exceptionally high with approximately 90% of students being present each week, indicating that these sessions were seen as effective learning opportunities.

50. In general, students responded positively to the learning packets approach — most appreciated the flexibility it provided, although some students also reported problems with motivation and finding the time to do the work outside of class. Some students thought that the token system was unfair and the additional alternative

8. IMPLICATIONS FOR IMPLEMENTATION

51. A number of factors impact negatively on the continuity that should exist between designing and developing 'good first year curriculum' accompanied by good practice pedagogy and the implementation of these good models in successive semesters and years. These tend to relate to efficiency drivers and include:

- Indications from faculty management at the beginning of 2007, that the number of new subjects (7) now designed for this program needed to be substantially reduced (despite the Faculty Teaching and Learning, Academic Board and Advisory Group endorsement of the program proposal).
- Further indications from management that subjects from existing programs that addressed similar content areas (for example, databases) but had different learning objectives and contrasting designs should replace some of the newly designed BCSM subjects.
- The BCSM had the smallest intake in the faculty and resources are typically allocated by size of cohort.
- The IT Faculty has recently lost many staff in two rounds of voluntary redundancies. Of the original 10 staff who participated in the design and development of the BCSM only 3 staff remain; of these, another staff member has been seconded to another role within the university. Fortunately, one of the remaining staff members is now teaching *ITB002* and the other has taken over the role of program coordinator. This meant that a sessional staff member (albeit a retired Professor) was appointed to teach *ITB360*, an existing staff member (but

new to the discipline) was assigned to coordinate *ITB361* and teach it with a team of professorial (largely research) staff. Another senior staff member was assigned to coordinate *ITB362*.

- There is additional pressure to reduce the small group contact time by 1 hour in the subjects that have 2 or more hours currently scheduled.
- Although the faculty workload model makes allowances for teachers of large and first year subjects and ongoing subject re-design and development, the reality of academic workload in the faculty is not realistically acknowledged (that is, activities are fitted into the workload model). For example, the subject coordinator of the large cross-program core subject in semester 1 2008 (~450 students) also has 1 day a week out of the faculty on a university approved program, is team-teaching another subject with her supervisor, is assisting staff that took over the two core BCSM subjects she coordinated the previous year, has been nominated for and is writing a teaching award application, and is under pressure from her supervisor to increase her research output!
- The processes associated with the appointment and training of sessional staff have the potential to negatively impact on students' first year experience. Faculty management and administrators do not appoint sessional staff until very close to the beginning of the semester. Appointment processes also mean that there are delays in sessional staff accessing program materials, information about their students and faculty systems. The implications for training are more notable in large classes. Often new tutors are employed in large classes and they need to be introduced to the first year philosophy, curriculum and teaching approaches. Tutors of large classes also require training to ensure there is consistency between groups and that appropriate monitoring, follow-up and formative feedback on performance and assessment is provided.
- Sessional staff are usually selected on the recommendation of staff members although some subject coordinators do ask for a resumé to assist with their selection.
- A student monitoring system that provides a student-focused view of their participation and performance has been implemented within the faculty under a QUT Teaching and Learning project. This system captures information about students' backgrounds (for example, membership of an equity group, repeating a first year subject, alternative pathway entry students, entry ranking) and indicators of student engagement (for example, attendance at orientation and in class, participation in online activities, first assignment submission, and so on). Certain combinations of indicators trigger outbound contact with students to offer support and advice. Triggers include membership of known at-risk groups (for example, low entry rank, repeating students, students with English as a second language), missing two classes prior to week 3, no online activity, non-submission of the first assignment.
- The faculty does not have a first year advisor.
- The faculty does have a learning support officer but her role has been reduced from five to two days per week.
- Program coordinators cannot access a list of all the students in their programs, making it difficult and time consuming to track student progress until the end of the year when the final results are collated for discussion at an examiners' meeting.

APPENDIX I

PRESENTATION SUMMARISING THE DEVELOPMENT PROCESS



Real-World Curriculum Design for a Changing Workplace

Assoc. Prof. Karen Nelson, Dr. Margot Duncan
29th – 30th November 2007



Queensland University of Technology

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Curriculum Design in Context

2020

2010

2000

1990

1980

1970

1960

1950

1940

1930

How fast is the real world of IT changing?

35 years ago the internet, personal computers, word processors and spreadsheets didn't exist.

How fast are other discipline areas changing?

Other discipline areas such as Education, Science & Health have much longer histories. Much of the change in these areas has been due to advances in IT.

How fast are university processes for curriculum renewal changing?

Some would say not fast enough. Universities sometimes function like separate worlds of their own...



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2020

Information Technology in Context

2010

2000

1990

1980

1970

1960

1950

1940

1930

Dramatic Changes and Emerging Trends

- ❖ boom of the late 1990's, followed by the dot.com bust
- ❖ off shore drift of programming jobs & development work
- ❖ ubiquitous, invisible nature of IT - IT as a utility supporting work
- ❖ still increasing rate of technological convergence
- ❖ a generation of digital natives
- ❖ absence of "careers"

COMPUTERWORLD
THE VOICE OF IT MANAGEMENT

Features

9 nontechie skills managers wish you had
(and how to get them)
Thomas Hoffman 14/11/2007 12:05:18

"Superior technical knowledge alone is no longer sufficient to meet today's business requirements."
(CompTIA, 2006, p. 3).

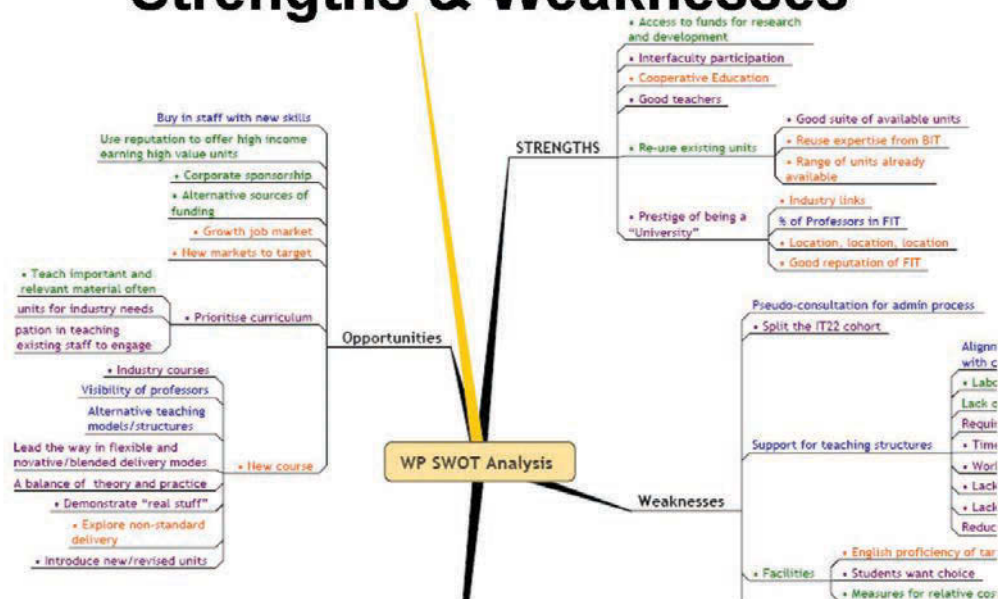


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Considering our Faculty Strengths & Weaknesses



from the BCSM Project site: Development Matrices <https://olt.qut.edu.au/it/tbcsm/sec/index.cfm?fa=displayPage&rNum=2900199>

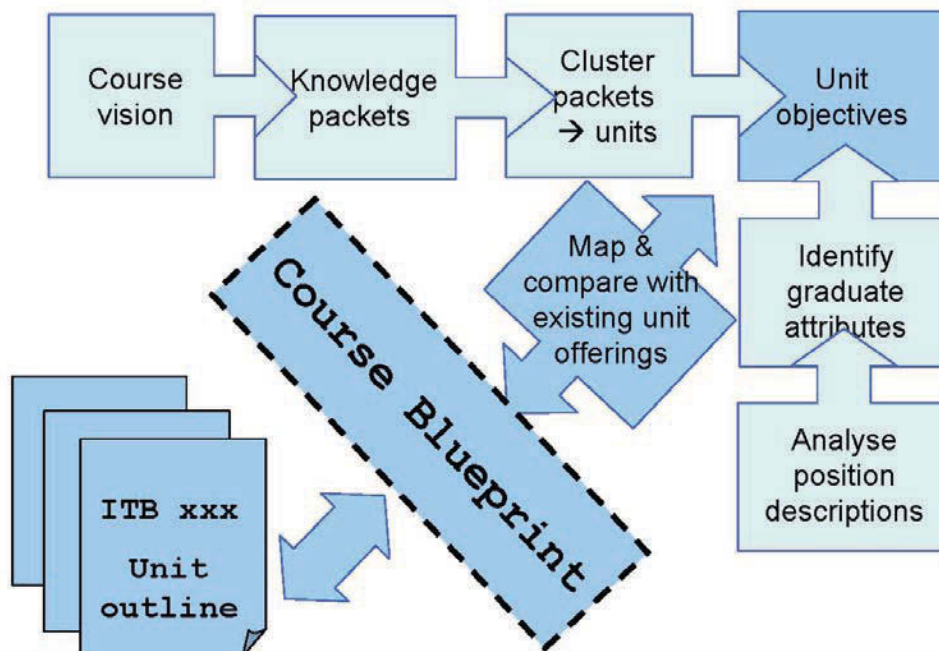


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Curriculum Design Process



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Analysing Real World Skills and Aptitudes in the Job Market

INTERNET CONTENT MGR/PROJECT M

Location: Adelaide, SA Australia 5000 Source:

The EBusiness team are part of the marketing team candidate who can manage core sections of the company by developing collaborative internal relationships. The candidate will be responsible for managing the on-line of the corporate Internet site and must be able to manage projects through to successful

Client Manager - IT Services (OTE \$250K)
Location: Melbourne, VIC Australia 3000 Source: bla
The EBusiness team are part of the marketing team candidate who can manage core sections of the company by developing collaborative internal relationships. The candidate will be responsible for managing the on-line of the corporate Internet site and must be able to manage projects through to successful

PLANNING MANAGER

Location: Sydney, NSW Australia 2000 Source: Hudson

Australia. Truly Global IT Player High Profile Business Support Role \$100-110K super bonus benefits Our client is instantly recognisable around the globe as a leading corporate and has a Your systems skills are excellent as are your verbal and written communication skills.

Add to my Saved Jobs

	A	B	C	D	E	F
1	Job Title		CareerOne	Seek	MyCareer	Average
2	Analyst Programmer		1.6%	20.4%		11.0%
3	Business Analyst		5.5%	8.2%	11.9%	8.5%
4	Computer Operator		0.1%	0.3%		0.2%
5	Consultant		14.5%	6.4%		10.5%
6	Data Warehousing		0.5%			0.5%
7	Data Warehouse & Admin		0.4%	4.1%	5.2%	3.3%
8	Data Warehouse		1.9%	1.0%	1.7%	1.5%
9	Database Administrator		0.0%			0.0%
10	Database Administrator		13.3%	3.6%		8.5%
11	Database Administrator		0.8%	3.6%		2.2%
12	Database Administrator		19.0%	6.2%	5.5%	10.2%
13	Database Administrator					0.6%
14	Database Administrator					1.5%
15	Database Administrator					
16	Management					
17	Networks & Systems Admin					
18	System Architecture					
19	Team Leader					
20	Technical Writer					
21						
22						
23						
24						
25						
26	System Architecture					
27	Team Leader					
28	Technical Writer					



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Key Skills and Aptitudes

Communication skills	IS architecture
Negotiation skills	Information Use
Time management	Workflow
Ability to learn	Process Modelling
Ability to research	Systems Modelling
Analysis/Synthesis	Legal Issues
Problem solving	IT Governance
Teamwork	People Management
Business principles	IT Management
Business domains	Project Management
Role of IT/IS	Testing & Quality Control
Ethics	System Integration

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Are our Graduate Capabilities keeping up with the Real World?

QUT & Faculty of IT Graduate Capabilities

1. Discipline Area Knowledge and Skills
2. Critical & Creative Thinking
3. Effective Communication
4. Capacity for Life-long Learning
5. Ability to Work Independently and Collaboratively
6. Ethical and Social Responsibility
7. Leadership and Self-Reliance

1	BCSM - Skills and Graduate Capabilities Matrix						
	1. Knowledge and Skills	2. Creative and Critical Thinking	3. Communication	4. Lifelong Learning	5. Independence and Collaboration	6. Social and Ethical	7. Leadership and Change
2							
3	Business Principles	x					
4	Comms skills		x				
5	Time Mgt			x			
6	Systems & Theory	x					
7	Ability to learn						
8	Ability to research			x			
9	Analysis/ Synthesis		x				
10	Problem Solving		x		x		
11	Team work						
12	Business Domains	x					
13	Role of IT/IS	x				x	
14	Ethics					x	
15	IS Architecture	x					
16	Info Use	x	x			x	
17	Workflow	x					
18	Process Modelling	x					
19	Legal Issues					x	
20	IT Governance						x

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What have we got and what are we missing?

• Learning objectives and graduate capabilities identified in existing unit outlines were used to begin the mapping.

• Skills a unit 'taught' and skills a unit 'assessed' were differentiated.

NOTE: Rate Units as:

1. Expected to do it but no support.	
2. Expected to do it, with support, not assessed.	
3. Taught but not assessed.	
4. Assessed but not taught.	
5. Taught and assessed.	

IS Units - All responses										
	ITB001 Problem-Solving & Prog	ITB002 IT Professional Studies	ITB004 Database Systems	ITB005 Systems Architecture	ITB006 Networks	ITB007 Web Development	ITB008 Modelling Anal & Design	ITB009 Core Project Initiation	ITB018 Application Programming	ITB022 Bus Sys Anal & Design
24				5	1		3			5
25										
26					1					
27				5	1	5				
28						1	3			
29										
30		4								1
31		5	5			3		5		
32										5
33		5				5	5	5	5	5
34										5
35	5		5	5			5			
36							5		5	4
37					1	1	5		5	5
38										

from the BCSM Project site: Development Matrices <https://olt.qut.edu.au/it/tbcsbm/sec/index.cfm?fa=displayPage&rNum=2900189>



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What have we got and what are we missing?

Only existing units that taught and assessed the required skills were included in a second mapping.

	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
2 Responded	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
3 Generic																									
4 Ability to Learn			1			1			1			1								1	1			1	1
5 Ability to Research			1					1	1														1	1	1
6 Analysis/Synthesis	1	1	1				1	1	1		1		1		1		1	1	1		1	1	1	1	1
7 Business Domains													1									1	1		
8 Business Principles			1										1		1										
9 Communic Skills	1	1	1						1	1		1		1		1	1	1				1	1		
10 Info Use												1		1									1	1	
11 Marketing									1													1	1		
12 Negotiation Skills																									
13 People Mgt																					1	1			1
14 Change Mgt*																									
15 Problem Solving	1	1	1	1			1	1				1						1	1		1	1			1
16 Project Mgt			1									1											1		1
17																									

from the BCSM Project site: Development Matrices <https://olt.qut.edu.au/it/tbcsbm/sec/index.cfm?fa=displayPage&rNum=2900189>



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ITB366
Information
Systems Operation



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Industry Involvement in Curriculum Development

- ❖ Industry partnerships
- ❖ Industry review of course proposal
- ❖ On-going industry involvement in “the living curriculum”



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Living Case Studies Engage Learners

Course – Industry Alignment

- ❖ Career exploration and planning
- ❖ Identifying “IT” jobs and desirable career paths
- ❖ Career planning modules as learning objectives
- ❖ Reflections on skills and knowledge in first units
- ❖ Understanding personal “technical” vs “professional” strengths

Bringing in the Real World

- ❖ Case studies as proxy for experience, discussion & assessment
- ❖ Guest lectures integrated into curriculum
- ❖ Students interview case study representatives
- ❖ IT projects and project managers participate in workshops
- ❖ Harness technology for learning – wiki’s, blogs ...



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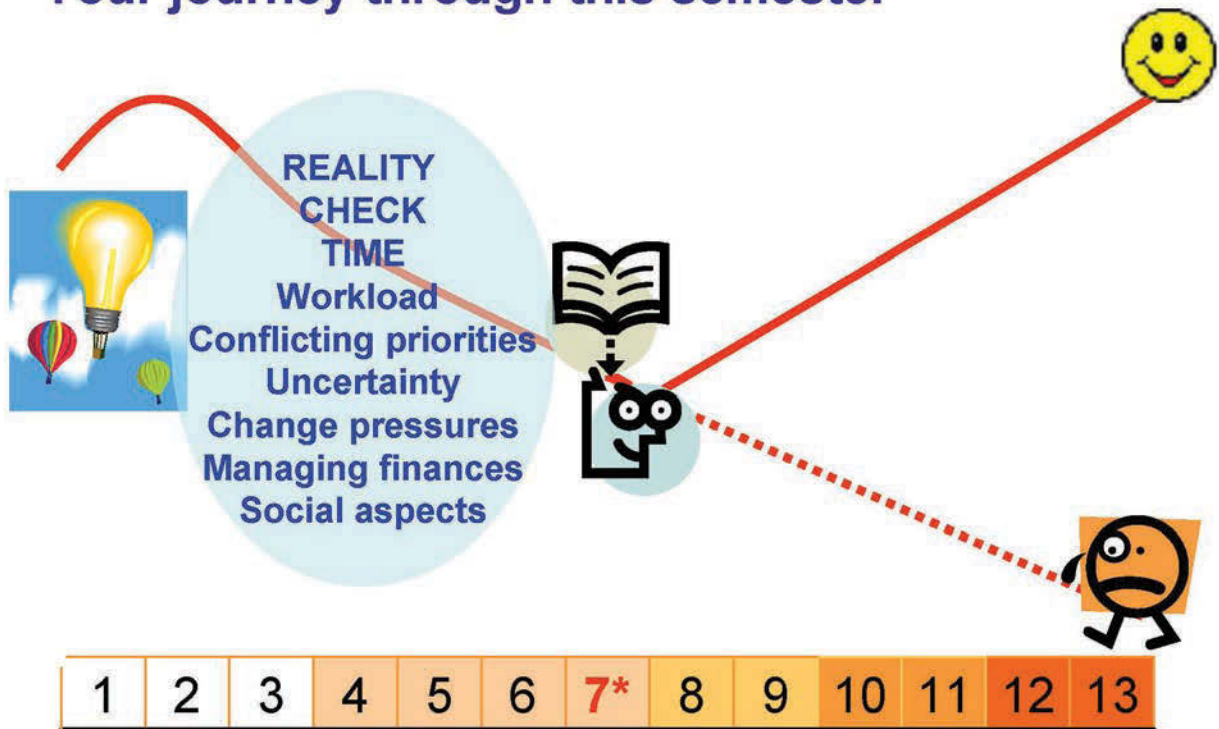
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APPENDIX II

THE 'SEMESTER PROGRESS' SLIDE

Your journey through this semester



APPENDIX III

GRADUATE ATTRIBUTE (CAPABILITY) MAPPING

Course Proposal Appendix 2: Core Skills Matrix

BCSM Design		Knowledge & Skill Development (I=Introduce, D=Develop, E=Extend)															
BCSM Graduate Capabilities (modified from QUT grad caps)	Knowledge and Skills in BCSM Core Units	Year 1						Year 2						Year 3			
		ITB002 Professional Studies	ITB360 Corporate Systems Management	ITB361 Socio-Technical Systems	ITB362 Organisational Databases	ITB363 Project Management Practice	ITB364 Information Systems Development	BSB115 Management, People and Organisations	ITB365 Business Analysis	ITB366 Information Systems Operations	BSB126 Marketing	ITB823 Websites for eCommerce	EFB Financial Management EFN420	ITB264 Information Systems Consulting	ITB233 Enterprise Systems Applications	ITB298 Business Process Modelling	ITB370 Cooperative Education or Project
Graduate Capability 1 Core discipline knowledge and skills.	Data Modelling	I				I	D					D					
	Dev Methodologies					I	D					D					
	IS Architecture			I											D	E	
	IT Governance					I					D						
	IT Management					I					D					E	
	Process Modelling						I			D	D					E	
	QA / Change Control					I	D			D	E					E	
	Role of IT/IS	I	I	I	I	D			D	D				E		E	
	System Implementation						I					D					
	System Integration		I	D			D								E		
Graduate Capability 1 Specialist knowledge and skills	Systems Modelling						1									1	
	Risk Assessment/Mgt					I				E							
	Security				I	D				E		E					
	System Design	I		D			E					E					
	Systems & Theory	I	I	D	D	D	D									E	
Graduate Capability 2 Critical, creative, analytical thinking. Problem-solving.	Systems Testing	I					D					D					
	Workflow														I	D	
	Ability to Learn	I	I	I	I	D	D	D		E				E			E
	Ability to Research	I	I	I	I	D	D	D	D	E		E		E	E	E	E
	Analysis/Synthesis	I	I	D	D	D	E	D	E		E	E	E	E	E	E	E
Graduate Capability 3 Communication	Problem Solving	I	I	D	D	D	E	D	E	E				E	E	E	E
	Communication Skills	I	I	I	I	D	D	D	D	E	E	E	D	E	D	E	E
	Info Use	I	I	D	D	D	D	D	D	D	D		E	E			E
	Business Domains	I	I	I	I		D	D	E	E	E	E	E	E	E	E	E
	Business Principles	I	I	I	I	D		D	E	E	E	E	E		E	E	E
Graduate Capability 4 Long Learning	Marketing										D	D		E			
	Time Mgt	I	I	I	I	D	D	D		D	D						E
	Negotiation Skills	I		I		D			D	E				E			
	Change Mgt			I		I		D	D	D						D	
Graduate Capability 5 Collaboration	People Mgt	I				I		I						D			E
	Teamwork	I				D	D	D		D	D	E		E			E
Graduate Capability 6 Social & Ethical Resp	Ethics	I	I	I			D	D		D	E						E
	Legal Issues	I		I	I		D			D		D		D			E
Graduate Capability 7 Leadership	Project Mgt	I				D	D	D				D	E	E			E

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Further resources developed under this ALTC Senior Fellowship, *Articulating a Transition Pedagogy*, are available at

<http://www.altcexchange.edu.au/first-year-experience-and-curriculum-design>