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Abstract:

This paper outlines a process of curriculum review and development. A model curriculum for a Bachelor of Business Information Systems program is presented. The paper presents the rationale for the program, expected learning outcomes and how the students should be able to fulfil the outcomes.

Keywords: Curriculum design, Business Information Systems

I Introduction

Current students across the three campuses were consulted regarding the current Information Systems program using a questionnaire. The questionnaire asked them to identify the best and worst aspects of the course. This was combined with the qualitative feedback from 2004 – 2006 for the Course Experience Questionnaire (CEQ) data. Eighteen responses were received from current students and 74 responses were received through the CEQ data.. The two questionnaires helped to identify areas of concern. Statistical data from the CEQ Data and Graduate Destination Survey were also considered.

II Summary of the changes proposed

The Bachelor of Information Systems has been significantly restructured. The current course has sixteen core Information Systems units, four Information Systems options and four electives. In addition students are required to do three compulsory Professional Experience units..

The core of the new BBIS course shares eight foundation units with the Bachelor of Business:
- ACCT100 Principles of Accounting
- MKTG100 Principles of Marketing
- BUSN100 Reasoning and Communication
- STAT102 Business Data Analysis
- HRMG100 Management and People
- ISYS101 Fundamentals of Business IS
- ISYS110 Applied Business IS
- BUSN202 Professional Ethics   (The Professional Ethics unit has been redesigned to meet the needs of both business and information systems students.)

Students will complete a major in Information Systems as part of the core.   In addition students will complete a second relevant major in either Business Intelligence or e-Business. This change will enable students to gain an in-depth knowledge of these aspects of Information Systems.

In summary, the essential change is that the reviewed degree will be focussed on the development of Information Systems as applied to business, rather than trying to integrate both the technical and business aspects into one degree.

In addition a choice of two majors will be provided.

The major in Business Intelligence will consist of the following eight units:
- ISYS110 Applied Business IS
- ISYS201 IT Infrastructure
- ISYS202 Business Analysis 1
- ISYS209 Business Analysis 2

- ISYS206 Business Intelligence
- ISYS304 Data Warehousing and Mining
- ISYS308 Business Modelling and Analysis
- ISYS309 Current Issues in Business Intelligence

The major in e-Business will consist of the following eight units:
- ISYS110 Applied Business IS
- ISYS201 IT Infrastructure
- ISYS202 Business Analysis 1
- ISYS209 Business Analysis 2
- ISYS205 E-Business Design
- ISYS210 Systems Management
- ISYS301 E-Business Applications
- ISYS302 Current Issues in E-Business

If any further majors are developed in the future they will need to include the four units:
- ISYS110 Applied Business IS
- ISYS201 IT Infrastructure
- ISYS202 Business Analysis 1
- ISYS209 Business Analysis 2

The students' comments from the CEQ data were very similar to those of the current students. Many referred to the quality of the lecturing staff and teaching and learning issues rather than course structure or course implementation issues. Students in the BBus/BIS liked the variety of units; they liked being able to combine their Information Systems with a major in the Business degree.

On the negative side, more than one student complained that, although they gained a wide knowledge of Information Systems, they felt that they needed more opportunity to study some aspect of Information Systems in depth.

The students were divided on the usefulness of Professional Experience. Some thought it was the best learning experience in the course while others did not like its inclusion at all. Some found it difficult to fit in the three units with their work and study commitments. Four students suggested that it should be reduced to two units instead of three. Others suggested that it should not be compulsory or should be shortened.

The only other negative comment by more than one student was regarding the specialist software only being available in one laboratory and not available in the library.

Staff feedback

Staff were initially asked to give feedback to the process via a survey. Seven staff members responded. Staff were given further chances to have input during a few meetings in 2007 and 2008.

Staff were unanimous that Professional Experience should remain an important part of the course. Some staff mentioned the need to ensure that the course was focussed on Information Systems instead of being too technical. Other staff, however, wanted to offer a more technical major. Both groups felt that the course needed to be made more relevant to industry in order to improve the employability of students.

The Business and Informatics review considered this and recommended that units be grouped to form specialisations within the course. The Business and Informatics review also recommended integrating more business units into the course. Employers want students who understand business as well as having the knowledge of Information Systems.

Rationale for the offering of the revised courses

The main reasons for the complete redevelopment to this course were the changes in the Information Systems industry and the requirements of ACS accreditation.

The new undergraduate course focuses on the use of Information Systems in Business and allows the students to major in an area of Information Systems. Two majors have been identified, namely, Business Intelligence and e-Business.

Most universities have been changing their IT courses to make them more applied. Some have introduced Business Information Technology courses; others have created courses specifically for multi-media or animation in an attempt to attract students back to the courses. It is no longer sufficient for Information Systems students to have only IT/IS skills; they need to be able to apply those in a particular industry.

Ethical standards and values are emphasised throughout the course and particularly in the unit, Professional Ethics. Two units, Professional Ethics and Professional Experience A, are dedicated to ethical practice and issues concerning social responsibility. The compulsory Professional Ethics unit fosters students' learning about ethical thinking within the fields of Business and Information Systems. This unit also incorporates aspects of social responsibility. The first Professional Experience unit is a compulsory unit that requires students to do 140 hours of community service. Students will be encouraged to take part in the community engagement projects offered by the University.

The revised undergraduate course also integrates Business and Information Systems thus addressing the strategic plan to enhance multi-disciplinary approaches to teaching in order to enrich the nature of students' learning experiences.

III COURSE DESIGN, QUALITY AND INTEGRITY

Course aims and objectives

The Bachelor of Business Information Systems, as a professional education program, is designed to develop students' abilities in the critical areas of analysis, synthesis and communication. These are developed in the context of using information technologies for solving business problems and facilitating business activity. In addition, the program aims to foster an appreciation of ethical and social contexts in line with the Mission of the University.

These generic skills and foundation knowledge in the business application of information technology will provide graduates with the flexibility required to develop their careers in a rapidly changing environment. In line with the Mission of the University, graduates will also understand the ethical and social implications of the use and development of information systems. In addition to these fundamentals, the course also develops advanced knowledge and skills in at least one specialised area of Business Information Systems of direct relevance to current business practices.

Graduate attributes

BACHELOR OF BUSINESS INFORMATION SYSTEMS (Core units)		
	Unit Codes	*Learning Outcomes* *By the end of the course, students should have developed the ability to:*
Intellectual		
Critical and analytical abilities.	Introduced in BUSN100 Reasoning and Communication Developed in all other units	▪ discuss the application of reasoning, critical thinking and problem solving; ▪ demonstrate an applied understanding of the application of reasoning and thinking to various business discipline areas; ▪ explain the importance and relevance of effectively communicating one's reasoning and critical thinking; ▪ develop written and oral presentation of their reasoning and critical thinking using appropriate tools and techniques.

BACHELOR OF BUSINESS INFORMATION SYSTEMS (Core units)		
	Unit Codes	**Learning Outcomes** **By the end of the course, students should have developed the ability to:**
Enthusiasm to search for further knowledge and understanding.	All units	Capstone unit in each of the majors on Current Issues will include researching new technologies. • demonstrate an understanding of contemporary issues in chosen major; • explain and discuss recent research undertaken in chosen major; • demonstrate in-depth knowledge of a currently significant issue in chosen major; • demonstrate a capacity to investigate, report and make recommendations on recent developments in chosen major; • analyse critically recent commercial case studies in chosen major.
Open-mindedness and receptiveness to new ideas.	All units	Capstone unit in each of the majors on Current Issues will include change management and the need to be receptive to new ideas. - See above learning outcomes
Expertise in chosen academic field.	All units	All units in the courses develop students' expertise in their chosen field.
Professional		
Knowledge and skills to meet relevant professional requirements.	All units Majors	Majors in Information Systems, e-Business and Business Intelligence are designed to meet ACS requirements.
Understanding of and commitment to professional ethical standards.	Focused on in BUSN202 Professional Ethics STAT102 Business Data Analysis Developed further in various units throughout the course	▪ demonstrate familiarity with and understanding of the codes of ethics of professional associations; ▪ discuss critically intellectual property and copyright in terms of legal and moral obligations; ▪ make recommendations for the implementation and management of organisational ethics programs; ▪ discuss the dangers of unethical use of statistics to distort or hide the truth.

BACHELOR OF BUSINESS INFORMATION SYSTEMS (Core units)		
	Unit Codes	**Learning Outcomes** ***By the end of the course, students should have developed the ability to:***
Communication, information literacy and interpersonal skills in working with clients and colleagues.	Introduced in BUSN100 Reasoning and Communication MGMT308 Project Management Developed throughout the course and assessed finally in the final project unit ISYS305 Information Systems Project	▪ develop written and oral presentation of their reasoning and critical thinking using appropriate tools and techniques; ▪ demonstrate their ability to collaborate and work effectively in groups; ▪ demonstrate an understanding of the listening process; ▪ evaluate their own performance in each of the above areas; ▪ demonstrate an understanding of the principles of intercultural communication; • improved and developed their communication skills. • understand the communication, people handling and team management skills required of a project manager in dealing with staff, suppliers and project stakeholders and explain some of the techniques that may be employed; • work effectively in a team; • deliver an oral presentation describing the project and the problem which it was designed to solve; • present both the documentation required and a final report in a professionally acceptable manner.
Values		
Commitment to values consistent with the University's Mission.	Focused on in BUSN202 Professional Ethics Developed further in other units	▪ demonstrate an understanding of the broad features of ethical thinking; • demonstrate an understanding of the business ethical theories and Catholic moral traditions which are most influential today; ▪ apply ethical reasoning to issues, problems and dilemmas drawn from realistic cases.
A spirit of service to the community.	Introduced in BIPX100 Professional Experience A	• be aware of issues of social justice and the economic and social effects of modern life; • understand the responsibility of individuals to the wider community

BACHELOR OF BUSINESS INFORMATION SYSTEMS (Core units)		
	Unit Codes	*Learning Outcomes* *By the end of the course, students should have developed the ability to:*
Commitment to good citizenship, including respect for individuals, empathy with persons of differing cultural and religious backgrounds, community responsibility and concern for the environment	BUSN100 Reasoning and Communication BUSN202 Professional Ethics Examples of units where this is further developed: ISYS101 Fundamentals of Business IS MKTG100 Principles of Marketing ISYS300 Application Development 2	▪ demonstrate an understanding of the principles of intercultural communication; • discuss critically the concept of being a good corporate citizen, including respect for the individual, cultural diversity, community responsibilities, equitable use of resources and regard for the environment; ▪ identify and discuss the organisational and social impacts of information systems, and the ethical dimensions of information systems-related decisions; ▪ appreciate the importance of marketing's social responsibility and issues associated with marketing ethics; • implement web interfaces that address accessibility issues.
A broad global understanding with a high regard for equity and human rights	Introduced in ISYS101 Fundamentals of Business IS Focussed on in BUSN202 Professional Ethics BUSN202 Business Analysis 2	▪ explain the role of information systems in facilitating globalisation through rapid information exchange; ▪ recognise the potential for this information exchange to both enhance and diminish fundamental human rights such as privacy and equity; ▪ demonstrate an understanding of the ethical implications of the current global context of economic organisation; ▪ recognise the need for privacy, security and regard for human rights in the development of database systems.

Course structure

BACHELOR OF BUSINESS INFORMATION SYSTEMS

Conceptual structure of the revised course

The course comprises 24 units, each of which is worth 10 credit points (cp). There are 11 core units (110cp) that include a major in Information Systems. In addition students are required to complete BIPX100 Professional Experience (no credit) and one of two majors in e-Business or Business Intelligence (80cp). Students will choose five electives (50cp) to complete the program.

The course map for the BBIS degree is shown below.

BACHELOR OF BUSINESS INFORMATION SYSTEMS						
Year 1	Sem 1	HRMG100 Management and People	ACCT100 Principles of Accounting	ISYS101 Fundamentals of Business IS	BUSN100 Reasoning and Communication	
	Sem 2	STAT102	MKTG100	ISYS202	ISYS110	

		Business Data Analysis	Principles of Marketing	Business Analysis 1 (ISYS101)	Applied Business IS	
Year 2	**Sem 1**	ISYS201 IT Infrastructure	ISYS203 Application Development 1	ISYS209 Business Analysis 2 (ISYS202)	Elective	BIPX100 Professional Experience A
	Sem 2	IS Major 5	ISYS300 Application Development 2 (ISYS203)	BUSN202 Professional Ethics	Elective	
Year 3	**Sem 1**	IS Major 6	IS Major 7	MGMT308 Project Management (80 cp)	Elective	
	Sem 2	IS Major 8	ISYS305 Information Systems Project (120cp incl MGMT308)	Elective	Elective	

Bachelor of Business Information Systems (Honours)

The revised structure for the Bachelor of Business Information Systems (Honours) is shown in the course map below. The course has changed slightly with two research units being replaced by a single research unit and the one advanced coursework unit being replaced by two advanced coursework units.

		Bachelor of Business Information Systems (Honours)			
Year 1	**Sem 1**	BUSN401 Research Methods	ISYS402 Advanced Coursework Unit 1	ISYS4xx Advanced Coursework Unit 2	ISYS403 Honours Proposal
	Sem 2	ISYS404 Honours Thesis (Full Time)*			

*Part-time students may do their thesis in parts over more than one semester.

Professional recognition

The new course has been accredited by the Australian Computer Society,

Dual degrees

DUAL DEGREE – BACHELOR OF BUSINESS/BACHELOR OF BUSINESS INFORMATION SYSTEMS

The core structure for the Bachelor of Business/Bachelor of Business Information Systems dual degree has been modified to include the changes to both the Bachelor of Business and the new Bachelor of Business Information Systems.

An overview of the structure is given below. All students doing Accounting as a major will be required to do BAFN200 (normally in their second year) instead of an elective.

Bachelor of Business/Bachelor of Business Information Systems (course map)

Year 1	Sem 1	HRMG100 Management and People	ACCT100 Principles of Accounting	ISYS101 Fundamentals of Business IS	BUSN100 Reasoning and Communication	
	Sem 2	STAT102 Business Data Analysis	MKTG100 Principles of Marketing	LEGL101 Introduction to Law	ISYS110 Applied Business IS	
Year 2	Sem 1	Business Major 1	Business Major 2	Elective or BAFN200 Principles of Finance (ACCT100)	ISYS201 IT Infrastructure	BIPX100 Professional Experience A
	Sem 2	Business Major 3*	Business Major 4	BUSN202 Professional Ethics	ISYS202 Business Analysis 1 (ISYS101)	
Year 3	Sem 1	Business Major 5	Business Major 6	ISYS203 Application Development 1	ISYS209 Business Analysis 2 (ISYS202)	
	Sem 2	Business Major 7	Business Major 8	IS Major 5	ISYS300 Application Development 2 (ISYS203)	
Year 4	Sem 1	MGMT308 Project Management (80cp)	IS Major 6	IS Major 7	ECON104 Business Economics	
	Sem 2	MGMT304 Strategic Management (150cp incl HRMG100)	IS Major 8	ISYS305 Information Systems Project (120cp incl MGMT308)	Elective	

*The first four units of the IS Major are part of the core.

Quality assurance

Quality assurance is addressed in a variety of ways. The Head of School assures that quality checks of unit outlines and assessments are implemented in the School. Unit outlines include information for students about the availability of support services on campus and links to the University's academic regulations, academic honesty and assessment policies.

Unit evaluations are undertaken using the Teaching and Learning Evaluation Program provided by the University's Institute for the Advancement of Teaching and Learning. These evaluations allow staff to reflect on the units taught and to adapt their teaching and assessments where appropriate.

Teaching and learning will take place in line with the University Policy on Quality Teaching and Learning and the Teaching and Learning Plan (2006 – 2008) of the University. Lecturers will use a variety of teaching and learning activities throughout the course. These will consist of, but not be limited to, lectures, tutorials, workshops, guest lecturers, work integrated learning, community service experience and student-directed learning.

Key elements in teaching and learning are:

- Respect for the individual learning;

- Appreciation of the diversity of backgrounds, past experience, knowledge, degrees of autonomy, capabilities and interests that students bring to their learning;

- Provision of learning experiences that engage students and cater for individual needs;

- Providing a challenging and supportive learning environment that encourages interaction with peers and fosters a positive, critical and constructive approach to learning;

- Providing timely feedback that recognises strengths and suggests possible improvements for the future;

- Ensuring that students' learning experiences include assessment that encourage and extend the student beyond knowledge to higher learning levels of analysis, synthesis and evaluation.

The Bachelor of Business Information Systems course introduces students to multi-cultural issues in the Reasoning and Communication unit in the first year. This is then developed throughout their other units and in particular in the Professional Ethics unit. Students with disabilities will be supported in their learning if they choose to do any of these courses.

International and global perspectives will be integrated into the revised course through the use of case studies situated in a variety of national and international contexts, through assignments which require students to develop an international perspective on an issue, and by drawing on the diverse experiences of students within the cohort. .

The revised course has been designed to meet the requirements of Australian Computer Society accreditation. Students professional skills are also developed through their work placements in the Professional Experience units.

Lecturers are able to bring their professional expertise and research into the learning environment. In addition, students are encouraged to research and required to write research reports or essays. This nexus is further developed in the Honours course which allows the students to develop their research expertise under the supervision of staff with the relevant expertise.

Conclusion

As a result of the review, the uniqueness of the existing program has been strengthened. The proposed changes to the course structure and content heightened the relevance of the course to student needs particularly with respect to enhancing employment prospects. The view of industry and the profession with regard to today's employment market has been taken into account and has helped in the review of the uniqueness and balance of this program. Information Systems graduates of this program continue to be specifically sought out by employers because of their training in ethical professional practice.

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