Proposal for the Honours Bachelor of Informatics in Business Technology Management

Faculty of Business and Information Technology

University of Ontario Institute of Technology

January 2016

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Introduction

The Faculty of Business and Information Technology (FBIT) at the University of Ontario Institute of Technology (UOIT) proposes a new Bachelor of Informatics (B.Inf.) Honours program with a major in Business Technology Management. This program is designed to produce highly trained Business professionals who are well positioned for roles in the public and private sector. The major will include coursework in management, information technology, informatics, and analytics that is implemented using a fully outcomes based assessment model through integrated experiential learning projects.

Business Technology Management: The major in business technology management is a four-year Honours Bachelor Program. There are also two degree completion pathways; one for students with a college business diploma, and one for students with a programmer analyst college diploma. The program offers a balance of information technology and business courses designed to meet the needs of today's technology-enabled economy. The program will develop student skills in data analytics, information systems, change management, and data security. Students completing this program would qualify for the Certified Business Technology Manager (CBTM) designation from Canadian Coalition for Tomorrow's ICT (Information Communication Technology) Skills (CCICT), once they obtain sufficient work experience. The major will be ready for a September 2017 start, pending necessary approvals. The pathway program bridge would begin in May 2018.

Background

"Informatics" is the study of information and communication systems for social and economic situations. Informatics focusses on the planning, development, implementation, operation, optimisation and economic use of information and communication technologies and systems. Informatics specialists are interdisciplinary interpreters of information systems and the application domain - between technologists, managers, and professional stakeholders (e.g. financial service providers, logistics and supply chain specialists, etc.) Our graduates will be able to integrate several areas together (e.g. data analytics, strategy, security, and information systems) and think about how processes and human work factors in an enterprise can be affected and improved by technology. These graduates not only need management and technical capabilities but must also be effective communicators who are able to mediate between people of disparate professional backgrounds. The program will emphasize research questions concerning the architecture, design, creation and dissemination of information and knowledge, as well as the systematic assessment and efficient use of area specific information and communication technologies, rather than focussing on the technical details of hardware and software. The federal government continues to invest in research and development in fields related to informatics through SSHRC, NSERC and CFI; and through agencies such as CANARIE and Compute Canada. It is important to remember that a key success factor in this sector is people, and the role of higher education is to develop people who will be exceptionally prepared to make significant contributions to Canada's success in the global digital economy. The UOIT Bachelor of Informatics in Business Technology Management is designed to develop the skilled people needed to fill these roles.

UOIT has been designated as a university with the capacity to grow at both the undergraduate and graduate levels. The Durham Region of Ontario, the primary service area of UOIT, is among the fastest growing regions in Canada. The proposed Informatics degree is consistent with the University's mission and will provide an enhanced flow of qualified students to existing Masters programs including the Master of Business Administration with a field in Technology Management. In addition, these programs fall

squarely within the Faculty's strategic plans for education, research, and service as well as in the University's Strategic Research Plan for smart communities. In particular, the program will leverage the unique profile of the Faculty of Business and IT through a truly integrated, inter-disciplinary program to prepare students to lead multi-disciplinary projects that intersect the boundary between business and information technology. The program builds on partnerships with the Ontario College sector through various pathway options.

This program is consistent with UOIT's mandate and FBIT'S priority to be market relevant. It also builds on and supports UOIT's and FBIT'S priorities to develop pathways for students from college programs. Existing pathways, and others in development, are intended to align with this program. The focus on informatics integrates with research being conducted in the Informatics Research Institute and in associated incubators. It is a direct response to market demand for professionals with domain specific knowledge and ICT related skills. According to Statistics Canada (2008) the labour market for professionals with business informatics skills was an IT occupation that continued to thrive through the recession due to industry need.

The development of this program in an immersive experiential learning environment evolved from a discussion a Provost's Retreat where the concept was developed with input from all the UOIT Deans and other members of the Provost's Council. The Office of the Provost, with support from the Office of the President, approached FBIT to develop the concept in the context of this new program.

Brief program abstract: The Bachelor in Informatics will provide students with the opportunity to learn in a program that balances information technology and business that incorporates an innovative experiential learning method. Although the proposed program will be unique in its pedagogical approach, it will retain the strong emphasis on quality, analytics, and market responsiveness for which UOIT is known. Students will have two possible entry points into the Bachelor of Informatics undergraduate program:

(1) applicants with a high school degree may be admitted directly into the four-year program. Admission will be on a competitive basis and will require an interview to ensure a fit with the experiential learning model;

(2) applicants with a business college diploma or programmer analyst diploma may be admitted to year 3 of the Bachelor of Informatics – Business Technology Management major after the successful completion of a bridge semester.

Note: Through collaborations with our college partners, some bridge courses may be integrated into the college diploma. In such cases, the admissions standards will not change, only the timing and location of course offerings may differ. Funding for these programs will be sought from the Ministry of Training, Colleges, and Universities.

The first point of entry is common for Canadian universities for undergraduate bachelor programs although the interview process is typically only seen in Bachelor of Education programs. The third point of entry is rare for Informatics programs at Canadian Universities. We believe that these pathway options are important for two reasons. First, FBIT's experience with pathway programs has been very positive and students using these pathways add significant value because of their work and life experiences, peer-learning opportunities, and student engagement. This option permits UOIT to offer

admission to talented applicants from college programs.

These programs are being developed with a significant emphasis on experiential learning. To facilitate this experiential learning, projects are developed in conjunction with external partners, either directly with the employers of working professionals, or through direct work with start-up companies in incubators we have relationships in order to facilitate this type of learning. The integration of work experience into the curriculum enhances learning and prepares students to become a productive member of the workforce. Small class sizes and team environments will provide the structural support for student learning in a dynamic environment. Academic recognition for these types of experiential learning requires the development of appropriate assessment mechanisms. The experiential learning model will be supported by hybrid and online modules of relevant theoretical and analytic content, as well as faculty and peer mentors.

As the only university in Ontario with a specific focus on technology integration and interdisciplinary research, we are uniquely positioned to support students in informatics programs. The programs are designed to incorporate a high degree of interdisciplinary teaching and learning, representing the integration of the technical and domain specific knowledge required in these emerging fields. These interdisciplinary learning experiences will ensure students are able to apply the knowledge to meet the changing demands of the market and be innovators and drivers of the future growth of the ICT industry. The proposed pedagogical approach of experiential learning is unique in Canada and will provide students will many opportunities to integrate and apply their knowledge to organizational problems at partner locations as well as in small start-up ventures of their own. Thus, students graduating from the programs will have demonstrated the learning outcomes through involvement with cutting-edge research and teaching methods and in turn will differentiate themselves from others in the workforce.

Description of the ways in which the program fits into the broader array of program offerings: Our Informatics program will take advantage of UOIT's existing strengths. The program will be situated with the Faculty of Business and Information Technology (an interdisciplinary faculty) rather than a business school or computer science faculty. Projects may be completed with faculty members and graduate and undergraduate students from multiple Faculties of UOIT. This will expose students in the program to additional perspectives on the impact of technology and information systems on individuals, organizations, and society. We have over 30 faculty members with expertise in the discipline. They are all active and productive in terms of teaching and research. FBIT's existing Bachelor program in Commerce and existing majors in Information Technology will complement the learning outcomes of the Informatics major by providing domain specific expertise and examples that would be faced by graduates throughout their careers. Students will be able to work on interdisciplinary projects with colleagues from other FBIT programs that will reflect real-world environments.

This program also complements existing graduate programs at UOIT in Computer Science and Health Informatics. In addition, UOIT is developing an Informatics Research Institute that will facilitate the training of graduate and undergraduate students. The development of the proposed program will help strengthen existing relationships and

develop new partnerships through national (e.g. Canadian Neonatal Network, Canadian Advanced Technology Alliance, IBM, TD Bank, RBC, Canadian Coalition for Tomorrow's ICT Skills) and regional organizations (e.g. Oshawa Clinic Group, Durham Region, Lakeridge Health).

Business Technology Management Major

According to Canadian Coalition for Tomorrow's ICT Skills (CCICT) there is a large industry-based need for professionals with business skills who have relevant information communication technology (ICT) skills to help achieve high levels of productivity and innovation, and to develop competitive advantages in Canadian organizations. Statistics Canada data provides supporting evidence for this need as employment in the Information Systems and Business Analyst area grew 38% from June 2009 to June 2010. Given the increased level of ICT integration into all business processes, graduates with these skills are increasingly in demand by employers in all sectors.

In 2010 CCICT launched a $2 million "digital jobs for tomorrow" campaign for the development of business informatics programs and to support university partners and students enrolled in accredited programs. CCICT has created a certification to encourage and accredit programs in business technology management. The UOIT Business Technology Management major achieves all the required learning outcomes to meet the CCICT's accreditation standards. Students completing the major would qualify to become Certified Business Technology Manager (CBTM), once they complete the work experience requirements.

Graduates from Informatics Programs with a major in Business Technology Management find employment identifying business problems and needs in order to design, implement, and maintain solutions that help organizations transform their business processes and information systems to meet the needs of the organization. This includes all types of information systems from office communication systems to strategic digital dashboards. Graduates will be qualified to hold positions such as business-IT advisors, industry IT specialists, business analytics consultants, information systems analysts, interactive media developers, technical writers, ICT managers, and e-commerce managers. Roles include:

- Analysis, planning and design of information systems
- Development of IT solutions for problems related to a specific department or domain
- Design and implementation of databases
- Demand-specific adaptation of applications
- Technical writing and documentation development
- Modeling and IT-supported optimization of business processes (e.g. process re-engineering)
- Design of high-quality interactive systems from the aspect of both task and application design.

Student Demand

This program is designed for students interested in using and managing technology in business and other industries. Students interested in business disciplines and ICT are candidates for this program. We have received numerous requests for such a program at open houses and the Ontario Universities Fair in the past. Admission to the program can be directly from high school or from college programs in business, IT, and computer science related programs.

Given the innovative nature of the delivery of this program, it will have a limited intake of 40 - 50 students during the pilot phase. This limit will ensure that the program can operate effectively using the proposed experiential learning model. Once the model proves successful then we will consider increasing the entering cohort size beyond 50 direct from high school incoming students.

Enrollment by Year	Year 1 2017.18	Year 2 2018.19	Year 3 2019.20	Year 4 2020.21	Year 5 2021.22
Students enrolled in Year 1 of Program	30	45	50	50	50
Year 2		25	40	45	45
Year 3			30	45	50
Year 4				28	43
Total numbers	**30**	**70**	**120**	**168**	**188**

Assumptions:

Additional 5 Bridge students in Year
2 through 4 of Program

Use of the experiential learning model will provide information on how to integrate experiential learning into other programs in FBIT, which will enhance the learning environment of students in those programs. Where there are similar learning outcomes across programs it will be possible to integrate students, which will contribute to greater understanding among students of the differences in their fields. Overall, an enhanced learning environment for all students will result.

Societal Need

Employers need people who understand how to leverage technology to meet the changing needs of the global economy to provide a competitive advantage for their organization in the marketplace. Demand in informatics related professions is high and growing fast. Already more than 200,000 professionals are in business technology management jobs in Canada. It is estimated that employers in every industry will need 182,000 more ICT employees by 2019 (Digital Adoption Compass, 2014). Ontario is estimated to need 76,300 ICT employees by 2019 with 52,700 of those positions needed in the Greater Toronto Area (Digital Adoption Compass, 2014). Graduates from the informatics program will help drive technology-enabled changes within Canada and the global economy, helping to improve innovation and economic growth.

Employers are looking for graduates who will have a clear ability to analyze situations, design appropriate technology-enabled solutions, and communicate these solutions effectively to non-technology savvy individuals. The graduates will need strong leadership and project management skills to solve problems and implement solutions.

Duplicatio n

Programs in business technology management are currently available at Ryerson University, York University, University of Toronto – Mississauga campus, Wilfrid Laurier University, and the University of Waterloo. None of these programs offer pathways. UOIT is the only university that integrates information technology and business in the same faculty, which is a significant advantage for the achieving integrated IT-business perspective needed for success in this field.

The immersive experiential learning approach is not available in informatics programs anywhere in Ontario university or college programs. Consultations with industry and accreditation bodies have all underscored the need for in-depth experiential learning, so students from the UOIT program will have a competitive advantage in the labour market. Focusing the program on emergent fields and integrating the theoretical components with the application in emerging markets will ensure students are at the cutting edge and uniquely qualified as these markets expand. Refer to Appendix A for Comparisons between the proposed program and existing Business Informatics programs.

Summary Table of Business Informatics/Business Technology Management Programs

Program Name	Location	Start Year	Length of Degree (Semesters)	Experiential Learning	Pathways	Technical
Business Technology Management	Wilfrid Laurier University	September 2011	11	Co-op	No	No
Business Administration and Computer Science Double Degree	University of Waterloo	September 2010	15	Co-op	No	Yes computer programming, data structures, algorithms, computer organization, software engineering, operating systems, and social implications of computing
Bachelor of Commerce - Business Technology Management	Ryerson University	Fall 2012	8 (10 with Co-op)	Co-op	Yes A three-year approved CAAT diploma specializing in Computer Programming, Information Technology or Telecommunications with a minimum 3.0/B/70% cumulative GPA is required	No
Bachelor of Arts - Digital Enterprise Management	University of Toronto	September 2013	Entry in 2nd year of 8 semester program		No.	Focus on digital media

Degree Requirements

Program Learning Outcomes – Major in Business Technology Management

At the end of this program, the student will have demonstrated the ability to:

1. Business Processes
Compare and contrast the role, processes, and structure of support functions of a business (e.g. management, marketing, finance, R&D, IT, human resources)
Discriminate among the role, processes, and structures of operational functions of a business (e.g. sales, manufacturing, distribution, customer support
Apply appropriate knowledge areas from the International Institute of Business Analysis (IIBA) Business Analysis Body of Knowledge (BABOK) to manage specific projects
Analyze and evaluate a business process, develop the "to-be" design, and then to create the implementation plan and the business change management plan to implement this design

2. Project and Change Management
Explain financial, operational, and reputational risk management. Articulate the implications for business decisions of cyclical and even-driven external risks (e.g. credit crunch, pandemics, global warming, peak oil)
Create and justify a risk management plan to mitigate risks inherent in business in the implementation of information and communications technologies (e.g. systems development, data security and privacy, business continuity, outsourcing, off-shoring and infrastructure)
Compare and contrast the choices and activities in procurement and management of purchased IT products and services
Apply the Project Management Institute's Project Management Body of Knowledge (PMBOK)'s approach to academic and industry based projects
Appraise the best practices for organizational change management
Create an appropriate IT and lifecycle management plan (networks, desktop and data centre hardware, operating systems, databases) for a given organization or project.
Evaluate IT investment decisions(e.g. make technology choices that will ease the integration of unpredictable future technologies)

3. Strategy and Economics of Information
Optimize the contributions of IT to the competitive strategies, innovations, decision-making and operations of various sizes and types of organizations, industry sectors, processes and functions
Describe the impact of IT for individuals, groups, and communities, including culture, social and environmental issues
Explain the business values, economics and governance of IT and the IT function within organizations, including IT's role, structure, challenges and career paths
Evaluate the choices and activities in procurement and management of purchased IT products and services based on the structure, offerings, and dynamics of the Canadian and international IT industries. This includes the economics of ICTs and specific subsectors (e.g., ERP, open source, outsourcing, web, mobility)

4. Information Management
Evaluate data standards and utilize these standards in the design of systems
Explain, and evaluate information quality and the effect on decisions
Describe and explain the theoretical and practical elements of legal requirement and ethical practices in the collection and storage of information

5. Strategic Use of Business Intelligence & Data Analytics
Appraise the discipline of knowledge discovery and data mining and its differences to transaction/operational systems
Design date warehouse based data stores.
Experiment with examples of business intelligence and data analysis including the use of various qualitative and quantitative methods of analysis to achieve a strategic goal
Compose appropriate user interface mechanisms with information and knowledge created by business intelligence and data analysis solutions
Examine introductory concepts relating to ethics and privacy and the challenges these place on knowledge discovery and data mining

6. Systems Design
Analyze a business need, develop Request for documents (RFx), evaluate the responses, and structure a contract with the successful vendor. Evaluate the effectiveness, appropriateness and usability of an implemented information system
Explain, create, and evaluate algorithms, data structures, and networked communication protocols to develop modern computer software
Explain the current and future issues in IT operations (e.g. delivery of service levels, change control, green IT)
Set-up and analyze hardware capabilities, runtime structures, and software interoperability
Justify choice of programming language, hardware architecture, and functional or object-oriented software design

7. Technology and Security
Describe and explain the theoretical and practical elements of IT security and security management, including practices, policies and procedures, in the context of the changing needs of IT for organizations.
Describe and explain aspects of IT security and security management in the context of the wider world, addressing legislative and societal requirements
Explain the technical concepts of IT Security, including cryptography, malicious logic, identity and auditing
Construct, explain, and evaluate security policies and procedures
Develop and execute technology-focused and user-centred performance and usability evaluations

8. General Business
Discuss the history and interpret the current role and future trends (e.g. globalization, social responsibility) of business within society and the global economy
Compare and contrast various business designs and models (e.g. networked, supply chains, open innovation, collaborative ecosystems) and formulate appropriate models for various cases.
Compare and contrast various kinds of organizations by industry sector, ownership, governance, and size – their business models, key performance factors, dominant structures, and processes

9. Team Management
Evaluate and apply the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)
Persuade, influence, motivate and provide guidance (In a team setting)
Facilitate a range of group innovation, analysis and decision making techniques (In a team setting)
Engender and sustain trust of team members (In a team setting)
Effectively use technologies to facilitate and support group activities and processes (In a team setting)
Exhibit an understanding of the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)

10. Communications
Apply a mastery of ethical reasoning, client relationship management, business courtesies and self-presentation in all aspects of the program
Communicate clearly, efficiently and effectively in both oral and written methods in a business context
Construct a strategy for business communications leveraging social media tools, practices and networks
Formulate ideas effectively in public presentation settings, including graphics, layout and writing components

11. Critical, Innovative Thinking and Ethics
Evaluate a new technology, criticize its strengths and weaknesses, appraise its usefulness to solve business problems and clearly, effectively and efficiently communicate the results
Interpret the overall organizational learning and innovation process / life-cycle, and evaluate its role in organizational success

12. Integrative
Analyse a business problem – collect relevant information, describe and compare options and risks, and make recommendations. Appropriately use of relevant techniques such as systems thinking, qualitative, and quantitative analysis
Design and communicate a moderately complex technology-enabled solution to a business problem
Effectively plan, manage, and lead a business technology project
Apply and synthesize programming knowledge with an understanding of business processes and practice.
Manage software and creative web and media application teams

A complete curriculum mapping can be found in Appendix C.

Admission Requirements

Regardless of educational background, all applicants to undergraduate programs must have specific pre-requisite subject knowledge for their intended program of study. This is a competitive entry program. The specific average or standing required for admission varies from year to year. Eligible applicants will be invited for an interview to demonstrate their communication and leadership skills to ensure a good fit with the experiential learning environment. Interviews will be scheduled and managed by the Faculty of Business and Information Technology. Students are selected by taking into consideration a wide range of criteria including school marks, distribution of subjects taken, responses to personal interview, and performance in subjects relevant to the academic program.

Current Ontario secondary school students must complete the Ontario Secondary School Diploma (OSSD) with six 4U or 4M courses, including English (ENG4U).

Students applying directly from high school with their OSSD to the major in Business Technology Management require:
A min. 75% average on six 4U or 4M credits including;
1 Grade 12 English (ENG4U) with a min. average of 65%
1 Grade 12 Math (MHF4U or MCV4U) with a min. average of 65%

The bridge program admission pathways provide students with the opportunity to apply the diploma they have already earned toward a Bachelor of Informatics. Graduates from a relevant two or three-year diploma program from an Ontario college with an overall B average or better can receive up to 51 transfer credits toward the B.Inf degree.

Pathways students applying to the major in Business Technology Management require:
A minimum 75% average in a two-year Business diploma;
A minimum C average in each of the B.Inf – Business Technology Management Bridge courses

Students applying to the major in Business Technology Management from the three-year DC Computer Programmer Analyst Program or equivalent require:
A minimum 75% average in an approved 3 three-year Computer Programmer Analyst program;
A minimum C average in each of the B.Inf – Business Technology Management CPA Bridge courses

Program Structure

The Bachelor of Informatics (Honours) in Business Technology Management is a four-year, 120 credit hour program with 30 credit hours per year. Students will complete 15 credit hours of assessed learning outcomes each semester. A typical 36 hour (three credit hour) course will be articulated as three, one-credit hour learning modules. Each module will consist of four weeks of material. This format provides flexibility in the delivery of the material to allow for increased team teaching and a truly interdisciplinary

approach to the presentation of concepts and their application. The modularization will also aid in the efficiency of updating material to stay current, which is critical in the informatics area due to the pace of technological change. Components in a module include online video clips and appropriate learning resources; synchronous group activities and discussions, and experiential application of material to be done in project groups.   Students will continue to register for the courses as 3 credit hour courses, a specific section using the experiential learning and modular delivery will be developed for students in this program.

The first year of the program will focus on fundamental skill development including communications, time management, numeracy skills, technology applications and programming skills, and fundamental concepts related to the area of study. During this year, students will be introduced to how to learn through simulated cases and experiential learning mini-projects.

In the second year, students will become more immersed in the experiential learning model approach as their skills increase and their ability to analyze situations and apply concepts to solve organizational problems develop. During this time, the students will be part of project teams but will not normally be leaders of any team.

In the final two years of the program, students are expected to act as both project leaders as well as team members in active experiential learning opportunities in order to complete their program learning outcomes. Their roles and responsibilities in the project teams will increase as will the expected level of application, analysis, problem solving, and solution implementation for assessment of the learning outcomes.

Student learning outcomes cover the equivalent of 36 credit hours in business-related courses, 51 credit hours in information technology-related courses, at least 21 credit hours in informatics learning outcome areas, and at least 12 credit hours in open electives outside business, information technology or informatics courses. The successful completion of at least a total of 120 credit hours is required for this program. Each of the two pathway alternatives for this major are explained starting on page 22.

Informatics Electives
Electives in the area of informatics include:

- Simulation Modeling (BUSI 4610U)
- e-Commerce (BUSI 3502U)
- Website Design and Management (BUSI 3530U)
- Knowledge Management and Enterprise Systems (BUSI 4510U)
- Innovation Management (BUSI 3650U)
- Quality Improvement Frameworks (BUSI 2610U)
- Business Forecasting Techniques (BUSI 3450U)
- Operations Analysis using Spreadsheets (BUSI3601U)
- Multimedia Systems (INFR 3730U)
- Directed Studies in Informatics (BUSI 4599U)

- Special Projects in Informatics (BUSI 4590U)
- Computer Architecture (INFR 2810U)
- Network Systems (BUSI 3580U)

The open electives for students in the Major will normally be taken as courses offered by other faculties at UOIT.

Experiential Learning Model

Each program learning outcome is supported through a blend of face to face faculty-student instruction, online tutorials, peer mentoring, and real-life and simulated case based experiences. Students will be immersed in a number of different real-world situations with existing community-based partners, start-up companies, or in upper years in their own start-up enterprise to demonstrate and apply the theoretical constructs. Assessment of the learning outcomes will be conducted using both traditional exams as well as the analysis of documents, project performance, and product developed in the experiential learning settings.

Each semester students will be placed in teams and specific roles on project(s) to help them meet the learning outcomes they are attempting during that semester. Learning outcomes have been designed in modular fashion to enable flexibility in the ordering and scaffolding of the components to particular project applications. Online resources such as video clips, tutorials, and simulations will be provided to students from content experts (i.e.: professors from our own Faculty or a recognised expert from another institution or industry partner). These will be available to students using our learning management system and/or UOIT's iTunesU repository. The support material will be prepared in shorter segments as deemed appropriate for each course or learning module. Each video clip or supporting resources is expected to have a useful life of two - three years due to technological change and market demands. It is expected that students will engage in 60 minutes of asynchronous work with online resources for each of five learning modules each week.

Each experiential learning project will have a student team leader as well as a faculty mentor. Faculty mentors will provide guidance to the student team with additional faculty course instructors providing guidance on projects related to the program learning outcomes in progress for which they are responsible for the assessment. It is expected that faculty members teaching courses in the program for a given year will serve as mentors for experiential learning projects associated with those learning outcomes. Student team leaders will be progressing learning outcomes related to project management, leadership, communication, and integration of concepts as well as new informatics skills.

Meetings with the faculty mentor, the entire project team, and when appropriate the industry partner, will be scheduled on a regular basis to ensure the project is well managed and clear communication exists between all parties with respect to expectations, outcomes, and deliverable timelines. During these group activities, the application of relevant theoretical material and its application to the project will occur. As needed, these sessions will also integrate synchronous discussions with other instructors and faculty members to support project problem resolution and systems development.

Typical Program Map – Bachelor of Informatics – Business Technology Management Major

Course Equivalencies

First Year
- Mathematics I (INFR1040U)
- Mathematics II (INFR1041U)
- Business Communications (BUSI 1020U)
- Critical Thinking and Ethics (BUSI 1010U)
- Business Computer Applications (BUSI 1520U)
- Introduction to Programming (INFR 1100U)
- Object Oriented Programming (INFR 2140U)
- Management of the Enterprise (BUSI 1600U)
- Managerial Economics (BUSI 2050U)
- General Elective

Second Year
- Statistics (BUSI 1450U)
- Organizational Behaviour (BUSI 2311U)
- Managerial Finance (BUSI 2410U)
- Introduction to Operations Management (BUSI 2603U)
- Marketing in the Information Technology Sector (BUSI 2210U)
- Introduction to Project Management (BUSI 2550U)
- Law and Ethics of IT (INFR 1550U)
- Introduction to Computer Security (INFR 2600U)
- Systems Analysis and Design (BUSI 3550U)
- Algorithms and Data Structures (INFR2820U)

Third Year
- Information Systems (BUSI 3040U)
- Database Systems and Business Intelligence (BUSI 3504U)
- Management of Change (BUSI 3330U)
- Risk Management Frameworks and Processes (BUSI 3670U)
- Topics in Informatics (BUSI 4591U) (Topics include IT Governance, Introduction to Business Process Modeling, Supplier Management)
- Accounting for IT (BUSI 2120U)
- Informatics Electives – 2
- General Elective – 1
- General Elective, Business Elective, IT Elective or Informatics Elective - 1

Fourth Year
- Human Computer Interface and Design (INFR 4352U)
- Knowledge Discovery and Data Mining (BUSI 4504U)
- IT Security Policy and Procedures (INFR 4680U)
- Strategic Management for Professionals (BUSI 3700U)
- UOIT Edge Capstone (BUSI 4995U)
- Informatics Elective - 2
- General Elective, Business Elective, IT Elective or Informatics Elective - 1
- General Elective – 2

Typical Program Map for Post-Bridge – Bachelor of Informatics – Business Technology Management Major from a two-year Business Diploma (e.g. Durham College)

Course Equivalencies

Bridge	Mathematics II (INFR1041U)
	Critical Thinking and Ethics (BUSI 1010U)
	Introduction to Programming (INFR 1100U)
	Organizational Behaviour (BUSI 2311U)
	Introduction to Operations Management (BUSI 2603U)
Third Year	Object Oriented Programming (INFR 2140U)
	Managerial Finance (BUSI 2410U)
	Introduction to Project Management (BUSI 2550U)
	Law and Ethics of IT (INFR 1550U)
	Introduction to Computer Security (INFR 2600U)
	Systems Analysis and Design (BUSI 3550U)
	Information Systems (BUSI 3040U)
	Algorithms and Data Structures (INFR2820U)
	Database Systems and Business Intelligence (BUSI 3504U)
	Management of Change (BUSI 3330U)
Fourth Year	Human Computer Interface and Design (INFR 4352U)
	Risk Management Frameworks and Processes (BUSI 3670U)
	Topics in Informatics (BUSI 4591U) (Topics include IT Governance, Introduction to Business Process Modeling, Supplier Management)
	Knowledge Discovery and Data Mining (BUSI 4504U)
	IT Security Policy and Procedures (INFR 4680U)
	Strategic Management for Professionals (BUSI 3700U)
	Pre-Capstone Workshop (BUSI 4990U)
	UOIT Edge Capstone (BUSI 4995)
	Informatics Electives – 2
	General Elective – 1

Program Map for Post-Bridge – Bachelor of Informatics– Business Technology Management Major for Graduates of Programmer Analyst (three-year) program

Course Equivalencies

Transferred Credits (51 credit hours)	Mathematics I (BUSI1915U)
	Business Computer Applications (BUSI1520U)
	Business Skills and Communication (BUSI1020)
	Intro to programming (INFR1100U)
	Object-Oriented Programming (INFR2140U)
	Statistics (BUSI1450U)
	Accounting for IT (BUSI2120U)
	Introduction to Operation Management (BUSI2603U)
	Marketing in the Information Technology Sector (BUSI2210U)
	Introduction to Project Management (BUSI 2550U)

	Systems Analysis and Design (BUSI 3550U)
	Database Systems (BUSI3504U)
	Informatics Electives -3
	Open electives – 2
Bridge	Mathematics II (INFR1041U)
	Algorithms and Data Structures (INFR2820U)
	Organizational Behaviour (BUSI 2311U)
Third Year	Critical Thinking and Ethics (BUSI 1010U)
	Managerial Economics (BUSI 2050U)
	Managerial Finance (BUSI2410U)
	Management of Enterprise (BUSI1600U)
	Law and Ethics of IT (INFR 1550U)
	Introduction to Computer Security (INFR 2600U)
	Information Systems (BUSI 3040U)
	Management of Change (BUSI 3330U)
	Informatics Electives – 1
	Open electives – 1
Fourth Year	Human Computer Interface and Design (INFR 4352U)
	Risk Management Frameworks and Processes(BUSI 3670U)
	Topics in Informatics (BUSI 4591U) (Topics include IT Governance, Introduction to Business Process Modeling, Supplier Management)
	Strategic Management for Professionals (BUSI 3700U)
	Knowledge Discovery and Data Mining (BUSI 4504U)
	IT Security Policy and Procedures (INFR 4680U)
	Pre-Capstone Workshop (BUSI 4990U)
	UOIT Edge Capstone (BUSI 4995)
	Informatics Electives – 2
	General Elective – 1

Calendar Copy

9.1 egrees offered

Bachelor of Informatics (Honours)
- Business Technology Management major

The Faculty of Business and Information Technology offers innovative degree programs in Commerce and Information Technology. By placing a strong emphasis on how technology can enhance business opportunities, students are prepared to launch successful careers in business and industry.

The faculty's research focuses on the areas of business process integration and management, risk management, international business, marketing, corporate governance, and information technology security. The faculty also promotes commercialization of technology.

9.2   Program information – Bachelor of Informatics (Honours)

9.2.1 General information

The Bachelor of Informatics (Honours) degree prepares graduates with strong employability skills and the foundations for excellence in technology management and informatics in the public and private sectors.

Informatics issues are examined from a number of perspectives, including technical design, how they are managed, and the changing environments in which they operate. National and international contexts are explored, along with relevant issues facing managers in business, information technology, labour and the public sector.

Students receive extensive practice in applying theory to the processes of decision-making and problem solving through an innovative experiential learning model which includes computer-based exercises and simulations, case study analyses, problem-based learning activities and field-based projects.

In year four, students benefit from the Pre-Capstone Workshop, UOIT Edge – Capstone Study Project, and Strategic Management courses. Students in the Pre-Capstone Workshop prepare their proposals and project outlines for completion in UOIT Edge-Capstone Study Project. These unique courses provide an opportunity to consolidate learning from earlier years of the program on the site of a partnering organization and under the supervision of both university faculty and the organization's management team. In lieu of UOIT Edge – Capstone Study Project, qualified students may also enrol in the Internship program as described in Section 9.2.3.

9.2.2 Admission requirements for the four year program

Admission is competitive. The specific average or standing required for admission varies from year to year. Students are selected by taking into consideration a wide range of criteria including school marks, interview, distribution of subjects taken, and performance in subjects relevant to the academic program. Eligible applicants will be invited for an interview to demonstrate their communication and leadership skills to ensure a good fit with the experiential learning environment. Students are selected by taking into consideration a wide range of criteria including school marks, distribution of subjects taken, responses to personal interview, and performance in subjects relevant to the academic program. Possession of the minimum requirements does not guarantee acceptance. Preference will be given to applicants with the best qualifications.

Current Ontario secondary school students must complete the Ontario Secondary School Diploma (OSSD) with six 4U or 4M credits including English (ENG4U) with a recommended minimum average of 75 per cent and one of Advanced Functions (MHF4U) or Calculus and Vectors (MCV4U) with a recommended minimum average of 75 per cent. All other applicants should refer to Section 4.5 of this calendar for the requirements for their specific category of admission.

9.2.3 Internship program

This program offers students who have successfully completed two years of study, including having achieved a cumulative 3.0 GPA (B average on a 4.3 scale), an opportunity to engage in a contracted learning partnership with businesses locally and globally. Faculty members may provide links to various internship placement opportunities or a student may secure an employer who meets the criteria as prescribed by the Faculty of Business and Information Technology.

The internship program not only gives students an opportunity to apply classroom concepts to the challenges of organizational life, but also helps them to gain valuable and relevant work experience to promote networking and life-long career success. Participating employers are given the opportunity to bring the motivated learners, thinkers, and doers of tomorrow into their workplaces, as well as provide valuable mentoring to students.

The internship program placement equates to a minimum of 280 hours of progressive business and management experience. The intern's wages (stipulated in a contract) are paid by the sponsoring business over a contracted period. Successful work placement completion and both a verbal and written final report will result in the intern receiving a mark and three credits toward the honours Bachelor of Informatics degree requirements. Students who have successfully completed the Internship program are not required to take the UOIT Edge – Capstone Study Project.

Admission to the internship program is competitive. While students are participating in an internship program, they may enrol in a maximum of two courses (6 credits) per semester upon approval of their academic advisor. These courses must not interfere with the internship schedule outlined by the employer.

9.2.4 Careers

Employment opportunities are well above average, with a range of career possibilities or continuation of studies at graduate school. High demand exists for systems analysts, information technology experts, privacy managers, decision support specialists, or information systems executives.

9.2.5 Degree requirements

To be eligible for the honours Bachelor of Informatics degree, students must successfully complete 120 credit hours, including all courses outlined in the following example program maps.

Although reasonable efforts will be made to adhere to the following program map, course requirements and term offerings may change to reflect the integration with the experiential learning projects underway in a given semester. For the most up-to-date list of course offerings, please visit the faculty website at **www.businessandit.uoit.ca**.

9.2.5.1 rogram details – Business Technology Management major

The Business Technology Management major is designed for students interested in careers as systems analysts, IT executives, privacy managers. The program will allow students to meet the course requirements of the Canadian Coalition for Tomorrow's ICT Skills accreditation as a Certified Business Technology Manager (CBTM).

YEAR 1

Semester 1 (15 credit hours)
BUSI 1010U Critical Thinking and Ethics
BUSI 1520U Business Computer Applications
BUSI 1600U Management of the Enterprise
INFR 1040U Mathematics I
INFR 1100U Introduction to Programming

Semester 2 (15 credit hours)
BUSI 1020U Business Communications
BUSI 2050U Managerial Economics
INFR 1041U Mathematics II
INFR 2140U Object Oriented Programming
Elective**

Year 2 (30 credit hours)
Required Courses
BUSI 1450U Statistics
BUSI 2210U Marketing in the Information Technology Sector
BUSI 2311U Organizational Behaviour
BUSI 2410U Managerial Finance
BUSI 2550U Introduction to Project Management
BUSI 2603U Introduction to Operations Management
INFR 1550U Law and Ethics of IT
INFR 2600U Introduction to Computer Security
INFR 2820U Algorithms and Data Structures
INFR 3550U Systems Analysis and Design

Year 3 and Year 4 (60 Credit Hours)
Required Courses
BUSI 2120U Accounting for IT
BUSI 3040U Information Systems
BUSI 3330U Management of Change
BUSI 3504U Databases and Business Intelligence
BUSI 3670U Risk Management Frameworks and Processes
BUSI 3700U Strategic Management for Professionals
BUSI 4504U Knowledge Discovery and Data Mining
BUSI 4591U Topics in Informatics
BUSI 4990U Pre-Capstone Workshop
BUSI 4995U UOIT Edge – Capstone Study Project
INFR 4352U Human Computer Interface and Design
INFR 4680U IT Security Policy and Procedures
At least 4 Informatics 3 credit hour electives from:
  BUSI 2610U Quality Improvement
  BUSI 3450U Forecasting

        BUSI 3502U e-Commerce
        BUSI 3530U Website Design and Management
        BUSI 3580U Network Systems
        BUSI 3601U Operations Analysis using SpreadsheetsBUSI 3650U Innovation Management
        BUSI 4510U Knowledge Management and Enterprise Systems
        BUSI 4590U Special Projects in Informatics
        BUSI 4599U Directed Studies in Informatics
        BUSI 4610U Simulation Modeling
        INFR 2810U Computer Architecture
        INFR 3730U Multimedia Systems

Five Electives**

** A total of 15 credit hours (5 electives) which must consist of:

- No more than 6 credit hours (2 electives) in additional BUSI or INFR courses.
- At least 9 credit hours (3 electives) in the area outside business and information technology (BUSI, INFR prefix).

9.3 Program information – Informatics Pathways program

9.3.1 General information

The Information Technology Pathways program provides students with the opportunity to apply the Ontario college diploma (or equivalent) or degree they have already earned toward a Bachelor of Information Technology (Honours) degree at UOIT.

9.3.1 Program information – Informatics Pathways program – Business Technology Management Bridge

The Pathways program provides students with the opportunity to apply the diploma or degree they have already earned toward a Bachelor of Informatics (Honours) degree – Business Technology Management major at UOIT.

Two-year or three-year Ontario college business diploma (or equivalent) graduates with a minimum 3.0 GPA (B average on a 4.3 scale) have the option of taking the five core bridge courses. Students who successfully complete the Bridge program with a 2.0 GPA (C average on a 4.3 scale) in each course, are eligible to enter into the third year of the honours Bachelor of Information Technology program.

9.3.1.1 Business Technology Management Bridge Admission requirements

Admission is competitive. The specific average or standing required for admission varies from year to year. Eligible applicants will be invited for an interview to demonstrate their communication and leadership skills to ensure a good fit with the experiential learning environment. Students are selected by taking into consideration a wide range of criteria including school marks, distribution of subjects taken, and performance in subjects relevant to the academic program. Possession of the minimum requirements does not guarantee acceptance. Preference will be given to applicants with the best qualifications.

To qualify for the B.Inf – Business Technology Management Bridge program, students must have a minimum of any two- or three-year Ontario college business diploma (or equivalent) with a minimum 3.0 GPA (B average on a 4.3 scale) or any three-year university commerce degree with a minimum 3.0 GPA (B average on a 4.3 scale).

9.3.1.2 Business Technology Management Bridge requirements

Bridge courses
BUSI 1010U Critical Thinking and Ethics
BUSI 2311U Organizational Behaviour
BUSI 2603U Introduction to Operations Management
INFR 1100U Introduction to Programming
INFR 1041U Mathematics II

Year 3 (30 credit hours)
BUSI 2410U Managerial Finance
BUSI 2550U Introduction to Project Management
BUSI 3040U Information Systems
BUSI 3330U Management of Change
BUSI 3504U Databases and Business Intelligence
INFR 1550U Law and Ethics of IT
INFR 2140U Object Oriented Programing
INFR 2600U Introduction to Computer Security
INFR 2820U Algorithms and Data Structures
INFR 3550U Systems Analysis and Design

Year 4 (30 credit hours)
BUSI 3670U Risk Management Frameworks and Processes
BUSI 3700U Strategic Management for Professionals
BUSI 4504U Knowledge Discovery and Data Mining
BUSI 4591U Topics in Informatics
BUSI 4990U Pre-Capstone Workshop
BUSI 4995U UOIT Edge – Capstone Study Project
INFR 4352U Human Computer Interface and Design
INFR 4680U IT Security Policies and Procedures
Informatics 2 credit electives from:
        BUSI 2610U Quality Improvement
        BUSI 3450U Forecasting
        BUSI 3502U e-Commerce
        BUSI 3530U Website Design and Management
        BUSI 3580U Network Systems
        BUSI 3601U Operations Analysis using Spreadsheets
        BUSI 3650U Innovation Management
        BUSI 4510U Knowledge Management and Enterprise Systems
        BUSI 4590U Special Projects in Informatics
        BUSI 4599U Directed Studies in Informatics
        BUSI 4610U Simulation Modeling
        INFR 2810U Computer Architecture

INFR 3730U Multimedia Systems

Elective (1) in the area outside business and information technology (BUSI, INFR prefix)

9.3.2.1 Business Technology Management Computer Programmer Analyst (CPA) Bridge Admission requirements

Admission is competitive. The specific average or standing required for admission varies from year to year. Eligible applicants will be invited for an interview to demonstrate their communication and leadership skills to ensure a good fit with the experiential learning environment. Students are selected by taking into consideration a wide range of criteria including school marks, distribution of subjects taken, and performance in subjects relevant to the academic program. Possession of the minimum requirements does not guarantee acceptance. Preference will be given to applicants with the best qualifications.

To qualify for the Informatics CPA Bridge program, students must have a minimum of any approved three-year Ontario college computer programmer analyst advanced diploma (or equivalent) with a minimum 3.0 GPA (B average on a 4.3 scale).

9.3.2.2 Business Technology Management CPA Bridge requirements

Computer Programmer Analyst Bridge courses
BUSI 2311U Organizational Behaviour
INFR 1041U Mathematics II
INFR 2820U Algorithms and Data Structures

Year 3 (30 credit hours)
BUSI 1010U Critical Thinking and Ethics
BUSI 1600U Management of the Enterprise
BUSI 2050U Managerial Economics
BUSI 2410U Managerial Finance
BUSI 3040U Information Systems
BUSI 3030U Management of Change
INFR 1550U Law and Ethics of IT
INFR 2600U Introduction to Computer Security
Informatics Elective*
Elective in the area outside business and information technology (BUSI, INFR prefix)

Year 4 (30 credit hours)
BUSI 3700U Strategic Management for Professionals
BUSI 3670U Risk Management Frameworks and Processes
BUSI 4504U Knowledge Discovery and Data Mining
BUSI 4591U Topics in Informatics
BUSI 4990U Pre-Capstone Workshop
BUSI 4995U UOIT Edge – Capstone Study Project
INFR 4352U Human Computer Interface and Design
INFR 4680U IT Security Policies and Procedures
2 Informatics Electives*

Elective in the area outside business and information technology (BUSI, INFR prefix)

* Informatics 3 credit hour electives:
        BUSI 2610U Quality Improvement
        BUSI 3450U Forecasting
        BUSI 3502U e-Commerce
        BUSI 3530U Website Design and Management
        BUSI 3580U Network Systems
BUSI 3601U Operations Analysis using Spreadsheets
        BUSI 3650U Innovation Management
        BUSI 4510U Knowledge Management and Enterprise Systems
        BUSI 4590U Special Projects in Informatics
        BUSI 4599U Directed Studies in Informatics
        BUSI 4610U Simulation Modeling
        INFR 2810U Computer Architecture
        INFR 3730U Multimedia Systems

Resource Requirements

Faculty members, current

Faculty Name	M/F	Rank	Possible Courses
Akalu, Rajen	M	Teaching Focus	• INFR 1550U – Law and Ethics of IT
Akbari, Hamid	M	Assistant Professor	• BUSI 3700U – Strategic Management for Professionals
Bowen, Jane	F	Teaching Focus	• BUSI 2120U – Accounting for IT
Chang, Bin	F	Assistant Professor	• BUSI 2410U – Managerial Finance
Chen, Cuiping	F	Assistant Professor	• BUSI 1600U – Management of the Enterprise
El-Khatib, Khalil	M	Associate Professor	• INFR 1100U – Introduction to Programming • INFR 2600U – Introduction to Computer Security
Friedlan, John	M	Associate Professor	• BUSI 2120U – Accounting for IT

Goodman, Bill	M	Associate Professor	• BUSI 1450U – Statistics • BUSI 2603U – Intro to Operations Management • BUSI 3670U – Risk Management Frameworks • BUSI 2610U – Quality Improvement • BUSI 3730U - Forecasting
Heydari, Shahram	M	Associate Professor	• BUSI 3580U – Network Systems
Hung, Patrick	M	Associate Professor	• INFR 2600U – Introduction to Computer Security • BUSI 3502U – e-Commerce • BUSI 3530U – Website Design and Management • BUSI 3730U – Multimedia Systems
Ibrahim, Amin	M	Teaching Focus	• BUSI 1520 Business Computer Applications • INFR 1040U – Mathematics I • INFR 1041U – Mathematics II • INFR 1100U – Introduction to Programming • INFR 2140U – Object Oriented Programming
Jain, Chinmay	M	Assistant Professor	• BUSI 2410U – Managerial Finance
Jiang, Annie	F	Associate Professor	• BUSI 2205U – Principles of Marketing
Kapralos, Bill	M	Associate Professor	• INFR 1100U – Introduction to Programming • INFR 2140U – Object Oriented Programming • INFR 2810U – Computer Architecture
Karray, Salma	F	Associate Professor	• BUSI 2205U – Principles of Marketing
Kotlyar, Igor	M	Associate Professor	• BUSI 3330U – Management of Change
Krasman, Joseph	M	Associate Professor	• BUSI 2311U – Organizational Behaviour • BUSI 3330U – Management of Change
Lin, Xiaodong	M	Associate Professor	• INFR 4680U – IT Security Policies and Procedures • INFR 4681U –Policies and Procedures in healthcare and IT
Lowe, Josh	M	Teaching Focus	• BUSI 3580UB – Network Systems

Lu, Fletcher	M	Assistant Professor	• INFR 1040U – Mathematics I • INFR 1041U – Mathematics II • BUSI 3504U – Databases and Business Intelligence
Marsh, Steve	M	Assistant Professor	• BUSI 3040U – Information Systems • BUSI 4590U – Topics in Informatics • BUSI 4610U – Simulation Modeling • BUSI 4510U – Knowledge Management and Enterprise Systems • BUSI 4599U – Directed Studies in Informatics • BUSI 4590U – Special Projects in Informatics
McGregor, Carolyn	F	Professor	• BUSI 3504U – Databases and Business Intelligence • BUSI 4510U – Knowledge Management and Enterprise Systems • BUSI 2610U – Quality Improvement • BUSI 4504U – Knowledge Discovery and Data Mining • BUSI 4599U – Directed Studies in Informatics • BUSI 4590U – Special Projects in Informatics
Mirza-Babaei, Pejman	M	Assistant Professor	• INFR 4352U – Human Computer Interface and Design
Moretz, Jeff	M	Assistant Professor	• BUSI 3700U – Strategic Management for Professionals
Pazzi, Richard	M	Assistant Professor	• INFR 4680U – IT Security Policies and Procedures
Percival, Jennifer	F	Associate Professor	• BUSI 2311U – Organizational Behaviour • BUSI 3040U – Information Systems • BUSI 4590U – Topics in Informatics • BUSI 4610U – Simulation Modeling • BUSI 3650U – Innovation Management • BUSI 2610U – Quality Improvement • BUSI 4599U – Directed Studies in Informatics • BUSI 459XU – Special Topics in Informatics

Rose, Steve	M	Teaching Focus	• BUSI 1600U – Management of the Enterprise • BUSI 2311U – Organizational Behaviour • BUSI 3700U – Strategic Management for Professionals
Sankaranarayanan, Karthik	M	Assistant Professor	• INFR 1040U – Mathematics I • INFR 1041U – Mathematics II • BUSI 4591U – Topics in Informatics • BUSI 4510U – Knowledge Management and Enterprise Systems • BUSI 3650U – Innovation Management • BUSI 2610U – Quality Improvement • BUSI 4599U – Directed Studies in Informatics • BUSI 4590U – Special Topics in Informatics
Shapiro, Morden	M	Teaching Focus	• BUSI 1600U – Management of the Enterprise
Shi, Wei	F	Assistant Professor	• BUSI 2550U – Intro to Project Management • INFR 4352U – Human Computer Interface and Design
Smimou, Kamal	M	Associate Professor	• BUSI 2410U – Managerial Finance
Surti, Chirag	M	Assistant Professor	• BUSI 1450U – Statistics • BUSI 2603U – Intro to Operations Management • BUSI 2610U – Quality Improvement
Thorpe, Julie	F	Assistant Professor	• INFR 1100U – Introduction to Programming • INFR 4680U – IT Security Policies and Procedures • INFR 4681U –Policies and Procedures in Healthcare and IT
Thurber, Will	M	Teaching Focus	• BUSI 1010U – Critical Thinking & Ethics • BUSI 1025U - Communications
Vargas Martin, Miguel	M	Associate Professor	• INFR 1040U – Mathematics I • INFR 1041U – Mathematics II • INFR 1100U – Introduction to Programming • INFR 2140U – Object Oriented Programming

Wu, Terry	M	Professor	• BUSI 2205U – Principles of Marketing
Zhu, Ying	F	Associate Professor	• INFR 1100U – Introduction to Programming • INFR 2140U – Object Oriented Programming • BUSI 2810U – Computer Architecture • BUSI 3504U – Databases and Business Intelligence

Faculty members, to be hired

We are planning an intake of approximately 50 students a year for each of the first five years of the program. To prepare the courses for the initial cohort we need to hire an additional instructor in informatics. For the first year 2017-2018, we will also need to hire two core faculty members and several industry experts to cover required courses and develop the course modules for the future course offerings. During the second year 2018-2019 we will need to hire an additional two core faculty members and more part-time instructors to teach the rest of the courses and develop the additional modules in the program. During the third and fourth years of the program there will continue to be an increase in the number of students, so that by 2020-2021 there will be approximately 210 students in the program. It is important to note that these additional core instructors will also be teaching in our existing graduate programs as well as our proposed graduate program in Informatics.

Additional human resource needs

This program and the delivery model will warrant a coordinator who will identify appropriate experiential learning opportunities and manage both student and industry participation on these projects. Given the flexible design of this program, this person will also act as an Academic Advisor.

Physical resource requirements

As this program is to be offered using an experiential learning approach, there is a need for a few meeting rooms for student groups and mentoring sessions. Initially, we will look to leverage the current spaced of the Incubator room and the Hacker Research Lab as well as space at industry partner locations. Resources would also be required in terms of additional technological support such as sufficient number of "seats" in the synchronous environment (Adobe Connect), e-portfolios, and asynchronous environments (Blackboard).

Library Resources

The University of Ontario Institute of Technology Library enriches the research, learning and teaching carried out by the university through exceptional information services and facilities to support all academic programs. The existing UOIT Library resources based on programs will be sufficient to support this program.

Computing Resources

Students will participate in the technology enhanced learning program at UOIT. The University will provide its software licensing and distribution systems to students. These systems will enable students to carry out their coursework, meet their computational needs and enable them to access email, the Internet and library resources (such as online journals and conference proceedings). Course modules will

be taught online using a variety of tools such as Adobe Connect, Blackboard and other multimedia resources.

Financial Resources

Students in the Bachelor of Informatics program will have access to financial support through provincial loan programs. Budget resources have also been requested to support student participation in case competitions as well as institutional memberships for students and faculty in professional bodies such as COACH. Refer to Appendix D for the proposed budget.

Financial Services

UOIT's Financial Aid and Awards Office offers a range of financial services, including financial counseling, to students.

Proposed Budget

	Year 1	Year 2	Year 3	Year 4	Year 5
TOTAL	89,310	342,465	732,650	1,132,970	1,533,290
Tuition Revenue Projection					
	Year 1	Year 2	Year 3	Year 4	Year 5
TOTAL	283,770	278,425	1,129,990	1,577,286	1,763,341
TOTAL REVENUE	**373,080**	**620,890**	**1,862,640**	**2,710,256**	**3,296,631**

Industry Partner Revenue	**-**	**25,000**	**70,000**	**118,000**	**138,000**

	Year 1	Year 2	Year 3	Year 4	Year 5
New Course Development	5	5	6	0	0
Redesign of existing courses	13	5	4	0	0
Total INFORMATICS Sections	18	28	38	38	38

	Year 1	Year 2	Year 3	Year 4	Year 5
Course offering by year of program	10	20	30	40	40

EXPENSES

	Year 1	Year 2	Year 3	Year 4	Year 5
New Hire FT Core Faculty (1,2,2,0,0)	394,961	667,509.32	687,535	708,160.63	729,405
New course in program	39,960	39,960	47,952	-	-
Development of new design of sections($7200)	103,896	39,960	31,968	-	-
Teaching assistants ($85.00/hr)*	37,278	173,964	447,336	835,027	934,435

Advisor/coordinator for Projects	80,514	82,929	85,417	87,979	90,619
Professional memberships and other student supports	2,000	3,000	4,000	5,000	
Total Expense (include fringe)	658,608	1,007,322	1,304,208	1,636,167	1,754,459
* Total # of students x 3 hours /student x # of sections					

	-	285,528	- 386,432	558,432	1,074,089	1,542,172
EXPENSES/REVENUES	-	0.77	- 0.56	0.33	0.42	0.49

Appendix A: Business Informatics / BTM Programs Comparisons

Institution: **Wilfrid Laurier University – Brantford**
Program Name and Credential: Bachelor of Business Technology Management
Program Description: Success in today's business world depends increasingly on effectively leveraging technology in the workplace and beyond. Information and Communication Technologies (ICTs) are at the heart of everything that happens within and among organizations, their suppliers, customers and other stakeholders. Laurier Brantford's Bachelor of Business Technology Management (BBTM) program prepares graduates to be leaders in a turbulent world of technology-based change. The strength of the BBTM program comes from its unique programming that reflects the belief that it isn't just about traditional business knowledge, the latest technical knowledge and professional training. It also places distinct emphasis on developing leadership, interpersonal communications, and collaboration skills. Laurier Brantford has embedded courses in liberal arts and leadership into the program to provide a more well-rounded education, better preparing graduates for the workplace of the future.
Similarities and Differences: Although both programs will meet the accreditation standard for business technology management, this is a business degree program which focuses on project management skills. The program has the minimum level of technology skills. In particular, there is no programming, computer architecture, or networking component. There is also significantly less emphasis on security and data privacy. There is no experiential learning integrated into the pedagogical design of the program. Instead this program requires a co-op element which extends the program to operate all year long. The work experience exists only in 3 semesters and does not specifically integrate all of the concepts from the program.

Also, this program does not offer mobility pathways for students from college programs. This reduces the accessibility of the program for post-college graduates.

Links:

https://www.wlu.ca/page.php?grp_id=1983&p=17606

Institution: **University of Waterloo and Wilfrid Laurier University**
Program Name and Credential: Business Administration and Computer Science Double Degree
Program Description: The Bachelor of Business Administration and Bachelor of Computer Science Double Degree (BBA/BCS) program is offered jointly by the David R. Cheriton School of Computer Science at the University of Waterloo (UW) and the School of Business and Economics at Wilfrid Laurier University (WLU). This is a new and unique program that offers two highly respected degrees from two outstanding institutions. Graduates of this program will meet the demand from today's information-rich society for personnel with both computer science and business management knowledge. As a student registered in this program, you will be taking courses at both UW and WLU, concentrating in computer science and business administration. After only 10 school terms and 4 to 5 co-op work terms, you will have earned an honours BCS (co-op) from UW and simultaneously an honours BBA from Wilfrid Laurier. Some of your courses will cover fundamental mathematics, computer programming, data structures, algorithms, computer organization, software engineering, operating systems, and social implications of computing. These are complemented by courses in finance, operations, accounting, marketing, organizational behaviour, modes of business communication, law, human resource management, and business policy.
Similarities and Differences: Like the proposed program, this program has a strong focus on both technology and business. This program is a very elite program which requires students to meet the requirements of a computer science degree as well as a business degree. The level of computer science and programming ability needed to succeed in this program is greater than in the proposed program. This level of computer science is not typically required for the roles the graduates of the program will find in industry. The business and information technology aspects are not well integrated as students take courses at two different institutions with others not enrolled in this program. This program also has less of a focus on information security and privacy than the proposed program. This program does require co-op experience to provide some application of concepts in organizations. The co-op experience is not integrated with course material and there is not guarantee that the work placements apply all concepts in the program. The program requires students to be continually in school for 5 years instead of the 8 semesters in the proposed program. Also, this program does not offer mobility pathways for students from college programs. This reduces the accessibility of the program for post-college graduates.
Links: https://cs.uwaterloo.ca/bbabcs/index.html

Institution: Ryerson University
Program Name and Credential: Bachelor of Commerce - Business Technology Management
Program Description: A business/technology hybrid, Ryerson's Ted Rogers School of Information Technology Management (ITM) is Canada's only school dedicated to business management and ICT. Our graduates help drive business strategies using ICT solutions, making ITM a leading contributor to Canada's ICT economy. Our school has recently launched the Business Technology Management (BTM) program (formerly the Information Technology Management program). The program has been accredited by the AACSB (Association to Advance Collegiate Schools of Business) accreditation. The BTM approach requires a strong focus on developing personal and interpersonal skills, in addition to technical and academic skills, producing a hybrid business/ICT professional. As well, the BTM approach requires students to gain hands-on working experience prior to graduation, often working with employers in the coalition. In addition to providing instruction using the latest applications, communication and development software, BTM delivers an understanding of the underlying principles driving ICT innovation. You learn to anticipate and capitalize on business opportunities tied to technological change.
Similarities and Differences: Like the proposed program, this program has been designed to meet the requirements of the business technology management certification from CCICT. The program takes a specific business approach to ICT management. This program does offer a co-op experience to provide some application of concepts in organizations. The co-op experience is not integrated with course material and there is not guarantee that the work placements apply all concepts in the program. Although this program does offer mobility pathways for students from 3 year IT college programs, none are from business programs. This reduces the accessibility of the program for post-college graduates.
Links: http://www.ryerson.ca/itm/index.html

Institution: **University of Toronto – Mississauga**
Program Name and Credential: Bachelor of Arts - Digital Enterprise Management
Program Description: Prepare for management roles in the digital age by developing a working knowledge of emerging technologies. Digital Enterprise Management (DEM) is a Specialist Program offered through Communications, Culture and Information Technology. Studies in DEM focus on the technologies comprising the Internet and the Web, which are transforming existing companies and providing fertile ground for the creation of new digital enterprises. Experts agree that such enterprises must be managed in fundamentally different ways from their industrial age precursors. This program explores this new managerial environment. Students will gain an understanding of the technologies that underlie digital businesses and the managerial challenges and techniques appropriate for being active and valuable participants in digital enterprises.
Similarities and Differences: This is a new program which offers a specialization in digital enterprise management. The specific focus on digital media is quite different from the general information technology focus of the proposed program. In particular, the proposed program contains a significantly higher level of programming, security and privacy, and analytical skills development. This program does not appear to include any experiential learning component. In particular, project management and hands on experience is not integrated with course material so students may not receive the opportunity to apply all concepts in the program into real world projects. Also, this program does not offer a major in health technology management nor does it offer mobility pathways for students from college programs. This reduces the accessibility of the program for post-college graduates.
Links: http://www.utm.utoronto.ca/iccit/programs/programs-offered/digital-enterprise-management-dem

Appendix B - Course Descriptions and Learning Outcomes

BUSI 1010U Critical Thinking and Ethics. This course explores the process of thinking critically and guides students in thinking more clearly, insightfully and effectively. Students will develop the abilities to solve problems, analyze issues, and make informed decisions. Some of the development of these skills will occur in a business ethics environment where students will apply their thinking skills to moral dilemmas they may face in their professional and personal lives. The blend of thinking and ethics will provide a rich environment for developing an approach to addressing challenges that face the business world, including (but not limited to) the environment and diversity. 3 cr, 3 web, 1 tut. Credit restrictions: ALSU 1101U.

BUSI 1020U Business Communications. Effective communication is a key to success in business. It is crucial for business people to choose the right words when dealing with colleagues, clients, customers, and others. Students will learn efficient writing techniques to produce summaries, letters, memos, job-search documents, and reports. This will include use of good grammar, style, and consideration of the audience for their communications. Students will also develop their speaking and presentation skills. Other skills in the course will include (but are not limited to) library research and business etiquette. 3 cr, 3 web, 1 tut. Credit restrictions: ALSU 1101U, COMM 1310U.

BUSI 1450U Statistics. This course introduces the fundamental concepts and applications of descriptive and inferential statistics and probability theory. It also introduces statistical model building. Emphasis is balanced among theoretical concepts, calculations (including computer-based calculations), and data interpretation. 3 cr, 3 lec, 1.5 tut. Prerequisite: BUSI 1916U. Credit restrictions: HLSC 3800U, SSCI 2910U, STAT 2010U, STAT 2020U, STAT 2800U.

BUSI 1520U Business Computer Applications. This course will provide skills in Office Suite software - Word, PowerPoint, Excel, Access, and FrontPage, along with VBA macro and SQL. Most emphasis will be placed on developing effective skills in Excel, including the use of Visual Basic (VB) macros, which will allow students to utilize the full power of the spreadsheet software. SQL will provide skills for communication with databases. VB macros and SQL will also provide some exposure to programming. It is intended as a university-level course to develop high-level skills in using these software resources. 3 cr, 3 lec. Note: This course is not available to Information Technology or Computer Science students for credit.

BUSI 1600U Management of the Enterprise. This introductory management course is divided into four parts. Students will be introduced to the core concepts and context of management, enhancing their understanding of how the business environment affects the practice of management. The functions of management will be reviewed, including key topics, issues and problems within the basic management activities of marketing, organizational behaviour/human resources, operations management and information technology, accounting, and finance. The latter components will synthesize the ideas presented in earlier classes by introducing fundamental elements of business strategy, followed by advanced topics in management, including small business, entrepreneurship and e-business. 3 cr, 3 lec.

BUSI 2050U Managerial Economics. Aspects of theoretical and applied economics relevant to professionals. Fundamental principles in both micro and macroeconomics are introduced. Microeconomics topics include scarcity, opportunity cost, diminishing returns, elasticity, industrial organization, economies of scale and concentration. Macroeconomics topics include unemployment, inflation, economic growth, the multiplier, equilibrium, fiscal policy and monetary

policy. The principle of money and banking are introduced along with the role of the Bank of Canada. Applied economics topics covered include cost concepts, time value of money, comparison of alternatives, depreciation, tax considerations, economic analysis of projects, breakeven, sensitivity and risk, and decision models. 3 cr, 3 lec. Credit restriction: ECON 2010U.

BUSI 2120U Accounting for IT. Accounting for IT will develop an understanding of how to use, interpret, and understand financial statements and other accounting information. The course will emphasize the role of judgment in accounting and how the managers responsible for preparing accounting information have considerable latitude in deciding how and what information to report. The course uses financial statements and other examples from IT firms to develop an understanding of financial accounting from an IT perspective. 3 cr, 3 lec. Credit restrictions: BUSI 1101U, BUSI 2150U.

BUSI 2210U Marketing in the Information Technology Sector. This course is concerned with the development of marketing techniques and strategies for the IT sector. Special emphasis is placed on the evolving business and technological environments facing IT firms. Topics include positioning, distribution, branding, product life cycle management and pricing strategies for IT companies. 3 cr, 3 lec. Credit restrictions: BUSI 2205U, BUSI 2201U.

BUSI 2311U Organizational Behaviour. This course provides students with a basic understanding of the fundamentals of organizational behaviour. The concepts of individual perceptions and attitudes, group dynamics, motivation, communication, leadership and power are studied, as well as aspects of the organizational system such as organizational culture and change. Application to human resources management will be highlighted throughout the course. Using interactive techniques and case studies, students will have opportunities to apply organizational behaviour theories, concepts, and practices. 3 cr, 3 lec. Prerequisites: BUSI 1010U, BUSI 1600U or registration in an 'and Management' option with at least third-year standing.

BUSI 2410U Managerial Finance. This course provides an understanding of corporate finance with focus on financial markets. Topics covered in this course include valuation and capital budgeting, financial securities and financial markets, understanding and measurement of risk and returns, cost of capital, financial leverage of the firm and its dividend policy. (This course is only offered to students enrolled in "And Management" programs.) 3 cr, 3 lec. Prerequisites: BUSI 1101U, BUSI 2050U. Credit restriction: Open only to students enrolled in "and Management" programs.

BUSI 2550U Introduction to Project Management. This course focuses on information technology projects and applies basic project management theory on handling and managing those projects. It introduces the concepts and tools that are appropriate for phases of project life cycle, and incorporates areas outlined in the Project Management Institute's Project Management Body of Knowledge (PMBOK) into the basic concepts associated with information systems management and software engineering. 3 cr, 3 lec. Prerequisite: HLSC 2201U or enrolment in the BIT (Hons) program or Year 3 standing in BCom (Hons) program. Credit restriction: ENGR 3160U.

BUSI 2603U Introduction to Operations Management. This course introduces students to the functional area of production and operations management as practiced in manufacturing industries and the services sector. It includes decision-making, project management, facility layout in both manufacturing and service industries, waiting lines, quality control, just-in-time

systems, forecasting, aggregate planning, inventory management, materials requirements planning and operations scheduling. 3 cr, 1.5 lec, 1.5 web, 1.5 tut. Prerequisite: BUSI 1916U or MATH 1000U or MATH 1010U or MATH 1880U or ENGR 0103U and registration in an 'and Management' option with at least third-year standing. Credit Restriction: ENGR 3160U and ENGR 3170U. *Note: FBIT has changed the prerequisite for this course to be BUSI 1450U instead of BUSI 1916U in 2015 which is not reflected in the current calendar.

BUSI 2610U Quality Frameworks. In this theory and lab-based course, students examine the planning tools and techniques used to establish a quality focused system. As well, students look at the effective monitoring and continual improvement in the quality of an organization's products and services. Other topics include quality planning, process capability, gauge capability, Pareto analysis, quality costs, cause and effect, regression correlation, ANOVA, ISO 9000 and acceptance sampling. 3 cr, 3 lec.

BUSI 3040U Information Systems. This course introduces students to the management issues, concepts and terminology associated with information technology systems. This course is of interest to students with either a technical or a nontechnical background. Issues discussed include: the role of computers in modern organizations, data models and their relation to organization models, systems development processes, and systems theory. Students will learn to recognize opportunities for use of computer based technology at strategic, tactical and operational levels; the technical and organizational problems generated by introducing new technology; and the long-term organizational implications of these decisions. 3 cr, 1.5 lec, 1.5 tut. Prerequisites: BUSI 2170U, BUSI 2202U, BUSI 2312U, BUSI 2402U, BUSI 2603U and Year 3 standing in the BCom (Hons) program.

BUSI 3330U The Management of Change. As the environment of many organizations (both for profit and non-profit) becomes increasingly complex and unstable, it is crucial that top managers be able to create a climate of adaptability in their organizational practices. Students will examine issues such as the relatedness of internal and external environments, structure, technology, size and function of organizations. Emphasis will be placed on interdependencies of the components of an organization during planned change. The use of case analysis will allow students to apply theories from the course and demonstrate how to overcome obstacles during the change process. 3 cr, 3 lec. Prerequisite: BUSI 2312U.

BUSI 3450U Business Forecasting Techniques. This course examines the theory and the application of major forecasting techniques and methods used in marketing, economics, operations management, and other functional areas of business. Simple and multiple regression models are studied, followed by time series methods of smoothing, seasonal decomposition, econometrics, and Box-Jenkins ARIMA modelling. After introducing simulation methods and forecasting expert systems, the course addresses important issues of model validation, selection, and control in a business context. 3 cr, 3 lec. Prerequisite: BUSI 1450U or HLSC 3800U or STAT 2010U or STAT 2020U or STAT 2800U.

BUSI 3502U E-Commerce. This course deals with the development of Internet and its impacts on business transactions. The course explains how electronic commerce affects the way companies, governments, and people conduct business. Topics include the role of the Internet, electronic marketplace, privacy and security issues and electronic payments. 3 cr, 3 lec. Prerequisite: BUSI 1830U or INFR 1100U.

BUSI 3504U Database and Business Intelligence. This course will introduce students to the techniques and tools used to manage databases and conduct basic business intelligence

gathering and analysis. Students will be introduced to topics such as normalization, SQL, importance of business intelligence (operational, tactical, and strategic), database security, and developing business intelligence reports. The importance of all forms of business intelligence will be examined as well as a basic introduction to data analysis techniques such as cluster analysis, association detection, and time-series analysis. Using interactive techniques and case studies, students will be able to apply database management and business intelligence theories and practices. 3 cr, 3 lec. Prerequisite: BUSI 1520U or CSCI 1800U or permission of the instructor. Credit restriction: CSCI 3030U or INFR 3810U.

BUSI 3550U Systems Analysis and Design. This course is designed to enable students to use the many tools and techniques used in systems analysis and design and examine alternative approaches to systems development. These approaches include structured analysis and design concepts, the prototyping of user interfaces, entity relationship diagrams, data flow diagrams and structure charts. Students will be expected to attain sufficient mastery of these concepts to apply them to a case study. Students will also use a variety of automated computer assisted software engineering (CASE) tools. 3 cr, 3 lec. Prerequisite: BUSI 1830U or INFR 1100U.

BUSI 3580U Network Systems. An introduction to the Internet networking technology covering internetworking principles and standards such as OSI model, IEEE standards, and protocols. Networking software, internetworking and interoperability of operating systems will be discussed. Implementation and administration of internetworking services and web servers, as well as monitoring, controlling and optimizing networking traffic will be covered. 3 cr, 3 lec. Prerequisites: BUSI 3040U or INFR 1100U.

BUSI 3601U Operations Analysis using Spreadsheets. This second course in operations and supply chain management extends the study in the areas of global services and manufacturing organizations. Students will engage in the development of schedules, advanced forecasting techniques, inventory management models, global logistics decisions, network design models, and supply chain management strategic decision making. Through the use of spreadsheets, student will learn how to manage the logistics and supply chain aspects for both manufacturing and service sector firms. 3 cr, 3 lec, 1.5 tut.

BUSI 3650U Innovation Management. This course will introduce students to the techniques and tools used to manage the innovation process for a variety of forms of innovation (including product, services, processes, social and technological). Students will be introduced to topics such as models of innovation, recognizing potential of innovations, supporting organizational change, and commercializing innovations. The importance of leadership, culture and organizational structure on the innovation process will be explored. Using interactive techniques and case studies, students will be able to apply innovation management theories and practices. 3 cr, 3 lec, 1.5 tut. Prerequisite: Third-year standing in BCom (Hons) or BIT (Hons) program.

BUSI 3670U Risk Management Frameworks and Processes. In any organization or process, whether in business, education, health services, applied sciences or engineering, risk is unavoidable - that is, something undesirable and unexpected could occur. Whoever is in charge would be irresponsible to not make every effort to identify and realistically plan for the risks that are faced. This course provides a general framework for managing risks, in whatever field, and introduces time-tested procedures for assessing the risks (i.e. Risk Analysis). Also addressed is the important area of Risk Communication to colleagues, clients, and when appropriate, the general public. Lecture materials are supplemented by cases, and students are encouraged to

bring cases from their own work and academic backgrounds. 3 cr, 3 lec. Prerequisite: Third-year standing.

BUSI 3700U Strategic Management for Professionals. This course examines strategy and related concepts. The focus is on strategic management: choosing and defining purposes and objectives, formulating and implementing a viable strategy, and monitoring strategic performance. The thrust of the course is to view the organization in its totality: the external environment in which it operates its strategy, and its internal administrative activities. The emphasis is on assessing the kinds of problems and issues that affect the success of the entire organization. 3 cr, 3 lec.

BUSI 4590U Special Project in E-Business and E-Commerce. This course is an exploration of current issues and topics in e-business and e-commerce. Specific topics and any additional prerequisites will be announced in the schedule each time this course is offered. This course may be retaken with a change in topic to a maximum of 9 credits. 3 cr, 3 lab. Prerequisite: 9 credits in e-commerce related courses.

BUSI 4599U Directed Independent Studies in Informatics. This is a project-based course as supervised by one or more faculty members on an approved topic related to current trends and issues in Informatics. 3 cr. Prerequisites: three 3000-level or above informatics related course and permission of instructor.

BUSI 4610U Business Simulation Modelling. This course introduces business modelling, decision analysis techniques to students using advanced spreadsheets and other forms of simulation modelling. The topics include Monte Carlo simulation, linear and non-linear optimization, sensitivity analysis and regression. Students will be introduced to specialized simulation software to model business processes. Business applications will be drawn from operations and supply chain management, logistics, finance, and marketing. Using interactive techniques and case studies, students will be able to apply business simulation techniques to theory and practice. 3 cr, 3 lec. Prerequisite: BUSI 3601U or BUSI 3440U or permission of the instructor. Credit restriction: CSCI 3010U.

BUSI 4652U Supplier Management for Competitive Advantage. The selection, development, and execution of appropriate buyer supplier relationships make up the theme of this course. Special emphasis is placed on negotiation, alliance development, and contracting issues in conjunction with ethics and cross-cultural issues. Topics discussed are: sourcing strategies as they relate to market, industry, and supplier dynamics; contract issues and philosophies including execution of competitive bidding (RFQ, RFP, RFI, and SOW); execution of complex alliances and developmental relationships; components of a negotiation plan; use of cost and price data in the negotiation plan negotiation execution; cross-cultural issues in negotiation planning and execution. 3 cr, 3 lec. Prerequisite: BUSI 3601U, with a C grade or better.

BUSI 4990U Pre-Capstone Workshop. In this course students will prepare their proposals and project outlines for completion in BUSI 4995U Capstone. Groups will be formed for consulting work with clients under supervision of a faculty advisor. Students will complete workshops on topics such as team management, ethics and professionalism, and project management. If required, REB approval for their consulting projects will be pursued and obtained by the end of this workshop. 0 Cr. Prerequisites: Completion of all 3rd year core courses in their program and clear standing or permission of instructor.

BUSI 4995U UOIT Edge Capstone Study Project. Students will work in teams with an outside client organization, completing a comprehensive analysis and evaluation of the organization and developing appropriate recommendations for improved performance and problem resolution. The student team will make a formal presentation of their findings and recommendations to faculty advisors and to the management of the client organization. Through Capstone, students will develop a thorough understanding of the technology, environment, markets, and operations of a real organization by applying the theory and knowledge that they have learned. 3 cr, 3 lec. Prerequisites: Year four standing in BCom (Hons) program or year four standing in BIT (Hons) program. Prerequisite: BUSI 4990U.

INFR 1010U Discrete Mathematics. This course addresses the following topics: sets and set operations, propositional logic, predicate logic, rules of inference; methods of proof and reasoning, modular arithmetic, counting, pigeon-hole principle, induction, deduction, relations, functions, graphs, graph algorithms, shortest path, trees, combinatorics; applications to cryptosystems, hashing functions, coding. 3 cr, 3 lec, 1.5 tut.

INFR 1016U Introductory Calculus. In this introductory calculus course, first characteristics, classes, and limits of various functions, including periodic and exponential functions, are discussed. The fundamental focus of the course is on the derivative of functions and rules of differentiation as well as the integral, rules, methods, and applications of integration. A brief overview of complex numbers is also discussed. 3 cr, 3 lec, 1.5 tut. Credit restrictions: MATH 1000U, MATH 1010U, BUSI 1916U.

INFR 1100U Introduction to Programming. This course introduces students to general computer programming principles, logics and problem solving skills. Topics include data types, variables, operators, expression, statements, blocks, control flow statements, functions (routines), arrays, pointers, and basic concepts of structures. The course uses a programming language such as C or C++ for illustrating the principle programming concepts. 3 cr, 3 lec, 1.5 tut. Credit restriction: ENGR 1200U.

INFR 1550U Law and Ethics of IT. This course provides an overview of topics related to legal, ethical and social issues arising from the use of information technology. It also covers areas such as cybercrime, privacy, intellectual property and equitable access. Topics to be covered include an overview of ethics, ethics for IT professionals and IT users, computers and Internet crimes, privacy, freedom of expression, intellectual property, and the code of ethics and professional conduct. 3 cr, 3 lec. Credit restriction: INFR 4550U.

INFR 2140U Object Oriented Programming. Based on the introduction to programming course, the fundamental concepts and techniques of object-oriented programming is introduced and explored in this course. Students will learn the fundamental concepts and techniques behind object-oriented programming in C++ or Java. They include: abstract data types (classes, objects, and methods); creation, initialization, and destruction of objects; class hierarchies and inheritance; polymorphism and dynamic binding. In addition, generic programming using templates and algorithm abstraction will also be discussed. 3 cr, 3 lec, 1.5 tut. Prerequisite: INFR 1100U. Cross-listed: BUSI 3540U.

INFR 2600U Introduction to Computer Security. Introduces the theoretical foundations of IT security. Topics include: fundamental concepts of IT security, vulnerabilities and associated risks, security models, authentication, authorization and accounting (AAA), identity and access control, object protection (granularity, reuse), cryptography, design principles for secure

systems, trusted computing base, separation/isolation/ virtualization, malicious logic, logging and auditing, intrusion detection, information security management. 3 cr, 3 lec. Prerequisite: INFR 1010U.

INFR 2810U Computer Architecture. Computer systems generation: main-frame, mid-range, microcomputers; peripherals and interfaces; bus design; input/output systems and technologies; central processing units: arithmetic logic and control units; semiconductor memory (RAM and ROM), magnetic disks and tapes, optical disks; assembly and high-level programming language; integer and floating point arithmetic, pipelining and parallelism; CISC vs. RISC. 3 cr, 3 lec, 1.5 tut. Prerequisites: [{INFR 1010U or INFR 1020U} OR {(concurrent INFR 1010U or concurrent INFR 1020U) and BIT Bridge}) and INFR 1100U].

INFR 2820U Algorithms and Data Structures. This course presents an overview of fundamental theories and knowledge in data structures and the associated algorithms. This course introduces the concepts and techniques of structuring and operating on abstract data types in problem solving. In addition, this course also discusses sorting, searching and graph algorithms, and the complexity and comparisons among these various techniques in computing and software development. 3 cr, 3 lec, 1.5 tut. Prerequisites: (INFR 1010U or INFR 1030U or INFR 1016U), INFR 2140U.

INFR 2830U Operating Systems. This course presents an overview of operating systems from the structure, performance, and design of operating systems. This course also covers the basic concepts of various operating systems, specifically Windows and Unix. 3 cr, 3 lec, 3 tut. Prerequisite: BUSI 1830U or INFR 1100U.

INFR 3730U Multimedia Systems. Theory, features, design, performance, complexity analysis and application of multimedia engineering technologies; digital signal compression: audio, image, video, characterization, compression requirements; source entropy and hybrid coding, transform and wavelet based coding; motion estimation; object-based processing, and multimedia indexing and retrieval. 3 cr, 3 lec, 3 lab. Prerequisites: INFR 1010U, INFR 2140U.

INFR 4680U IT Security Policies and Procedures. The objective of this course is to provide an understanding of the need for the multi-disciplinary involvement, an understanding of where this involvement fits into the policy development life cycle and a methodology that provides a means of implementing this development life cycle into an organization. The course discusses how the policy development process should be something that requires the involvement of key business decision makers of which information security is only one. 3 cr, 3 lec. Prerequisites: INFR 1550U, INFR 3600U.

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

Faculty: FBIT

Course title: Mathematics I

Course number: INFR 1040U   **Cross-listings:**   **___X_ Core___Elective**

Credit weight: 3cr

Contact hours: 3   Lecture_____Lab_____1 Tutorial _____ Other

CALENDAR DESCRIPTION

This course will introduce students to the core fundamentals behind linear algebra, sets and set operations, propositional logic, modular arithmetic, methods of proof and reasoning with a focus on business and data security applications.

Prerequisites   **None**

Co-requisites

Credit restrictions   **INFR 1010U**

Credit exemptions

Grading scheme   **X letter grade   ☐ pass/fail**

LEARNING OUTCOMES

Students who successfully complete the course have reliably demonstrated the ability to:
1. Use concepts including exponents, fractions, linear and quadratic equations to solve management problems.
2. Use sets to represent real life scenarios
3. Use the basic types of proofs to prove mathematical results
4. Understand propositional logic and their application in real life
5. Design simple algorithms and analyze their complexity
6. Use induction and recursion to prove mathematical formulas

DELIVERY MODE

(check all that may apply)   **face-to-face**   **X hybrid**   **online**

This course could be taught online if the instructor desired. The course will be taught in 1 cr. modules

TEACHING AND ASSESSMENT METHODS

This course will be taught in a small class environment. Students will be asked to complete online learning modules and participate in discussion of how the mathematical concepts relate to various informatics problems. Students will be asked to present their solution to worked problems to enhance their critical thinking and presentation skills.

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

APPROVAL DATES

Date of submission	May, 2014
Curriculum Committee approval	June, 2014
Faculty Council approval	August 28, 2014

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

Faculty: FBIT

Course title: Mathematics II

Course number: INFR 1041U   **Cross-listings:**   **_X_ Core___Elective**

Credit weight: 3cr   **Contact hours:**   3   Lecture_____Lab_____1 Tutorial _____
Other

CALENDAR DESCRIPTION

This course will introduce students to the core fundamentals behind linear algebra, sets and set operations, propositional logic, modular arithmetic, methods of proof and reasoning with a focus on business and data security applications.

Prerequisites   **INFR1040U Mathematics I**

Co-requisites

Credit restrictions   **INFR 1016U**

Credit exemptions

Grading scheme   **X letter grade   ☐ pass/fail**

LEARNING OUTCOMES

On the successful completion of the course, students will be able to:
1. Apply concepts of linear equations and factors to solve systems of equations.
2. Understand and demonstrate the use of matrices to solve systems of equations.
3. Understand limits and continuity.
4. Understand the derivative and the derivation of differentiation formulas (sum, difference, product, quotient, power, etc.)
5. Be able to compute derivatives of various functions using the derived differentiation formulas.
6. Be able to solve various application problems involving differentiation, including related rates and minimum/maximum problems.
7. Understand the concept of the definite integral.
8. Be able to use basic techniques to calculate integrals as they relate to applications in probability calcultions.

DELIVERY MODE

(check all that may apply)   face-to-face   X hybrid   online

This course could be taught online if the instructor desired. The course will be taught in 1 cr. modules

TEACHING AND ASSESSMENT METHODS

This course will be taught in a small class environment. Students will be asked to complete online learning modules and participate in discussion of how the mathematical concepts relate to various informatics problems. Students will be asked to present their solution to worked problems to enhance their critical thinking and presentation skills.

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

APPROVAL DATES

Date of submission	May, 2014
Curriculum Committee approval	June, 2014
Faculty Council approval	August 28, 2014

TEMPLATE 8-A

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

Faculty: FBIT

Course title: Knowledge Management and Enterprise Systems

Course number: BUSI 4510U   **Cross-listings:**   **____ Core   X_ Elective**

Credit weight: 3

Contact hours: 3   Lecture_____Lab_____Tutorial _____ Other

CALENDAR DESCRIPTION

This course will introduce students to knowledge management principles and the importance of enterprise systems in the organization that enable employees to acquire, distribute, and process knowledge. This course provides participants with an introduction to the technologies, methodology, and human aspects of planning and implementing such enterprise systems. Students will be introduced to business software such as SAP and social media. Case studies bring out the more subtle aspects of deploying such complex advanced software to manage knowledge and the economic impacts of such integration. Other topics discussed include economic issues, acquiring, storing, distributing, and processing knowledge particularly in large organizations and organization networks.

Acquisition and storage

Data Mining Techniques

Discovering knowledge

Prerequisites   **BUSI 3040U**

Co-requisites

Credit restrictions

Credit exemptions

Grading scheme   **X letter grade   ☐ pass/fail**

LEARNING OUTCOMES

Students who successfully complete the course have reliably demonstrated the ability to:

1. Explain what knowledge is, the types of knowledge that exist, and their strategic importance.
2. Describe and explain how systems thinking is integral to understanding and managing knowledge.
3. Explain the importance and types of enterprise systems used to aid in knowledge management.
4. Develop a knowledge retention strategy using applied theories and methods
5. Analyze and make recommendations on enterprise system implementation plans

DELIVERY MODE

(check all that may apply)   X face-to-face   ☐ hybrid   X online

This course could be taught online if the instructor desired.

TEACHING AND ASSESSMENT METHODS

This course will be taught in a seminar type environment. Students will be asked to read current publications to integrate practical examples of the issues discussed in the course. Discussions, student presentations, and research projects are used to enhance students' critical thinking abilities and to stay current with technological and organizational changes.

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

APPROVAL DATES

Date of submission	October 17, 2013
Curriculum Committee approval	June, 2014
Faculty Council approval	August 28, 2014

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

Faculty: Business and IT

Course title: Knowledge Discovery and Data Mining

Course number: INFR 4504U **Cross-listings:** **_X_ Core** **___Elective**

Credit weight: 3cr

Contact hours:___3 Lecture 1___Lab_____Tutorial _____ Other

CALENDAR DESCRIPTION

Many diverse domains are generating ever increasing volumes of data necessitating the use of advanced computing techniques to automate the translation of data to information and ultimately to knowledge. The discovery of new knowledge through the use of various data mining techniques on real world datasets and the current research directions represents the foundation context for this course. This course will explore topics in foundations of knowledge discovery and data mining, data mining approaches and the application of data mining within such diverse domains as healthcare, business, supply chain and IT security. Current research directions, trends, issues and challenges are also explored.

Prerequisites **BUSI3504U Database Systems and Business Intelligence**

Co-requisites

Credit restrictions

Credit exemptions

Grading scheme √ **letter grade** ☐ **pass/fail**

LEARNING OUTCOMES

On the successful completion of the course, students will be able to:

1. develop an awareness of latest computing and information technology competencies, methods and architectures within the context of knowledge discovery and data mining

2. understand the use of knowledge discovery and data mining within such diverse domains as (but not limited to) business performance measurement, healthcare administration, clinical research, customer and supplier profiling and IT security.

3. understand research directions within knowledge discovery and/or data mining

4. translate information known about data mining questions to perform the principle of the data mining process utilising a range of latest applicable modelling techniques.

5. to develop an increased awareness of the advantages and disadvantages of the various data mining techniques available within a relevant application context.

6. to develop an increased awareness of the issues surrounding data collection, preparation and quality of data used in the data mining process.

DELIVERY MODE

(check all that may apply) ☐ **face-to-face** √ **hybrid** ☐ **online**

This course utilizes an online blended teaching mode. Course content/lecture based material will be available as either multi-media presentations available for download from the course site or material delivered by the lecturer in person in class. As a result students can listen to and view these presentations at their convenience, however when multi-media presentations are available they MUST be reviewed PRIOR to the attendance in the in class component tutorials.

Students will participate in peer based review of some of the deliverables which will be performed prior to receipt of instructor feedback as detailed in sections 8 and 9. Further details on this process will be provided in class and online.

TEACHING AND ASSESSMENT METHODS

Deliverable	Mark
Assignments	40%
Competency Assessments (includes labs)	30%
Literature Review	20%
Participation	10%

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

APPROVAL DATES

Date of submission	October 17, 2013
Curriculum Committee approval	June, 2014
Faculty Council approval	August 28, 2014

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

Faculty: Business and IT		
Course title: Topics in Informatics		
Course number: BUSI 4591U	**Cross-listings:**	__x Core ___ **Elective** **If Elective, for which program (s):**
Credit weight: 3 cr.	**Face to Face Contact hours:** 3__Lecture_____Lab ___Tutorial Hybrid (1.5 face to face time, 1.5 Web) Yes_____NO _____ Web Portion: Do you require Adobe Connect? Yes _____ NO_ x___	

CALENDAR DESCRIPTION

The first topic explored in the course is the selection, development, and execution of appropriate buyer supplier relationships including the execution of competitive bidding (RFQ, RFP, RFI, and SOW). Students will also be introduced to the techniques and tools used to design, model, and analyze business processes. The techniques for diagrammatic representations (business process modeling) on process design will be explored. The final topic will introduce students to various IT governance models including ITIL, COBIT, and SOA. Students will learn how IT governance decision affect organizational productivity. Various performance metrics will be discussed with a focus on implementing best practice approaches to business situations. 3 cr, 3 lec. Prerequisite: BUSI 2603U or BUSI 2605U and 3rd year standing in Informatics program or permission of the instructor

Prerequisites	BUSI 2603U or BUSI 2605U and 3rd year standing in Informatics program or permission of the instructor
Co-requisites	
Credit restrictions	
Credit exemptions	
Grading Scheme	**x Letter Grade ☐ pass/fail**

LEARNING OUTCOMES

On the successful completion of the course, students will be able to:

1. Compare and contrast the choices and activities in procurement and management of purchased IT products and services
2. Evaluate IT investment decisions(e.g. make technology choices that will ease the integration of unpredictable future technologies)Analyze and evaluate a business process, develop the "to-be" design
3. Create the business process models to represent existing and "to-be" processes using a variety of methods
4. Create an appropriate IT and lifecycle management plan (networks, desktop and data centre hardware, operating systems, databases) for a given organization or project.
5. Compare and contrast various kinds of organizations by industry sector, ownership, governance and size – their business models, key performance factors, dominant structures and processes

DELIVERY MODE AND TEACHING METHOD (S):

| (check all that may apply) | X face-to-face | X hybrid | x online |

TEACHING AND ASSESSMENT METHODS

This course will rely on engaged student discussion and debate of ideas. Students will be expected to participate in all discussions and provide presentations of their case analyses. The course will integrate perspectives from the areas of informatics through the use of online videos and guest lectures. The model requires each student to actively engage in learning through the online videos, discussions, and quizzes. Students will also experience the responsibility of making informatics related management decisions through the integrative simulations and cases completed throughout the course.

Example Assesment

Simulation Analysis and Reflection	25%
Process Modeling Assignment	5%
Weekly Case Analysis & Discussion	20%
Participation (quality is what matters; online, tutorials, class)	10%**
Topic Exams	40%

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

This course was designed to fill in specific gaps in learning outcome knowledge in the field of informatics. The three modules were designed through consultation with industry partners as part of the Informatics program design

New Course Proposal Detail

INSTRUCTION:

PLANNED FREQUENCY OF OFFERING AND NUMBER OF SECTIONS ANTICIPATED (EVERY YEAR, ALTERNATE YEARS ETC.)

Annually informatics students require the course in the program.

NUMBER OF FACULTY MEMBERS CURRENTLY COMPETENT TO TEACH THE COURSE:

2

INSTRUCTOR (S) LIKELY TO TEACH THE COURSE IN THE COMING YEAR:

Dr. J. Percival

SAMPLE TEXTBOOK

No textbook. Course will be supported through research papers, and industry-based articles

ANY RESOURCES TO BE PURCHASED/PROVIDED BY STUDENTS:

CREATOR :   J. Percival

FACULTY QUALIFICATIONS (ACADEMIC AND EXPERIENCE) TO TEACH THE COURSE:

PhD in industrial engineering, operations management, information systems, management sciences or a related field. Research and experience in the application of business process modeling and IT governance.

BIBLIOGRAPHY:

List of bibliography will be prepared by the instructor to stay current with the market trend. The Library currently subscribes to many management and information science journals it is not expected that additional periodical subscriptions maybe necessary.

OTHER RESOURCES:

This course only requires a technology-enhanced classroom with laptop connections, data projector, and internet access. This type of classroom is already existed in our current building. There are no special equipment or lab facilities to support the offering of this course.

COURSE RATIONAL:

This specific offering will support the application of concepts in informatics to provide additional details on these topics which are critical for student accreditation by CCICT.

FACULTY APPROVAL FOR CROSS-LISTINGS:

APPROVAL DATES:

Date of submission	October 17, 2013
Curriculum Committee approval	June, 2014
Faculty Council approval	August 28, 2014

NEW COURSE TEMPLATE

For changes to existing courses see Course Change Template

Faculty: Business and IT		
Course title: Human Computer Interfaces and Design		
Course number: INFR 4352U	**Cross-listings:**	__x **Core** ___ **Elective** **If Elective, for which program (s):**
Credit weight: 3 cr.	**Face to Face Contact hours:** 3_ Lecture_____3 Lab ___Tutorial Hybrid (1.5 face to face time, 1.5 Web) Yes_____NO _____ Web Portion: Do you require Adobe Connect? Yes _____ NO_ x___	

CALENDAR DESCRIPTION

This is a course about the human factor of interactive business technologies. We will discuss novel interaction technologies and ways of getting feedback from players and users of interactive systems. Interactive systems have become a part of people's lives around the globe. The design and usability of interactive systems is important for the ubiquitous computing that surrounds us to function properly. The goal of this course is to make better interactive systems for business and healthcare by marrying the knowledge from human-computer interaction and system design. This will ultimately result in improving the relationship that people have to technology.
 3 cr, 3 lec. Prerequisite: BUSI 3550U

Prerequisites	BUSI 3550U
Co-requisites	
Credit restrictions	**INFR 4350U**
Credit exemptions	
Grading Scheme	**x Letter Grade ☐ pass/fail**

LEARNING OUTCOMES

On the successful completion of the course, students will be able to:
1. Apply User-Centred Design process to develop a business or healthcare application prototype
2. Identify, interpret, and explain human-computer interaction best practices
3. Prepare usable interfaces by building prototypes
4. Differentiate between different heuristic evaluation approaches
5. Distinguish various novel interaction hardware, compare their features and match devices to purposes
6. Summarize and compare different user research approaches
7. Design, implement, and evaluate effective and usable graphical user interfaces for business and healthcare systems

DELIVERY MODE AND TEACHING METHOD (S):

(check all that may apply)   X face-to-face   X hybrid   x online

TEACHING AND ASSESSMENT METHODS

Each lecture session for this course has two parts. Most course content will be delivered in the first part, followed by an interactive face-to-face class session. Both part are **essential to attend.** The interactive class sessions will feature a review of the lecture as well as group discussions and exercises regarding the topic of the week. Participation is an important aspect of this class, and everyone is expected to engage in discussion with their classmates.

Lab times are mandatory part of this course and scheduled to help you with your group based exercises, and for you to work on and present your assignments and ask any questions you might have. The Blackboard website (available to students through https://uoit.blackboard.com) provides online access to course materials, videos, important class-related announcements and additional reading/playing materials that are all relevant to this class. You must attend both lectures and your allocated lab session.

Lecture notes will be made available after lectures as PDF documents in Blackboard. More materials will be posted as the course progresses and students are encouraged to use the Blackboard forums or Twitter to suggest material to be discussed in the course. You must check Blackboard regularly to ensure that your learning materials are up to date. Assignments, exams, and other important announcements will be made during lectures and subsequently posted to Blackboard. Learning is not a spectator sport: You will need to speak up in class and demonstrate active learning. The more you participate in this course, the more you will get out of it!

Example Assessment
Participation (Quizzes, Lab tasks, Homework) (15%) [Individual]
All work on homework assignments has to be your own (unless the assignment explicitly states that it is a group task). If you discuss your homework with other students, please be honest about it and list their names in your manuscript. There will be 4-5 homework assignments throughout this course which can be discussed with the TA. Sometimes, you will also be required to answer the questions to a quiz either at home or in class. Personal accountability is one of the core teaching principles of this course; please make sure all your work is your own.

Weekly Learning Journal (10%) [Individual] –
This is a reflective learning journal that you keep about your experiences engaging with the course and your course works. There should be at least one dated entry per week (12 entries in total – max one page each). Entries should be in a critically reflective tone, not just a list of 'we did this and then we did that', e.g., you

might include notes about key activities of that week, what worked well and what didn't, why, what you have learnt in doing it, what you would do differently next time, what trade-offs you made in decisions re methods etc; issues of group working, issues around dealing with participants; relevant literature you have found, and so on. Marks will be allocated according to evidence of active critical engagement rather than the 'correctness' or quantity of the notes per se.
Midterm Exam (25%) [Individual]

Final Course/Team Project [Group] (total of 50% which is divided to project report (20%), project presentation (%20) and video demo (10%), deadlines)
For the final assignment of this class, your team will be assigned a project that is about application prototype development using a novel interface. List of available project topics will be discussed in the class during the first lecture, your professor and TA will help you to pick and pitch a project that balances your abilities and interest.

You must explain your design or evaluation process in the chosen interface/input domain, and you need to articulate why your approach is innovative and how it advances the current state-of-the-art. You must discuss what background research informed your design choices (in particular grounding in the target application area and existing efforts in this domain), and how you can know if you have achieved the impact you are seeking (evaluation strategies).

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

This course was designed as a modification of the existing HCI course for the game development program.

New Course Proposal Detail

INSTRUCTION:

PLANNED FREQUENCY OF OFFERING AND NUMBER OF SECTIONS ANTICIPATED (EVERY YEAR, ALTERNATE YEARS ETC.)

Annually informatics students require the course in the program.

NUMBER OF FACULTY MEMBERS CURRENTLY COMPETENT TO TEACH THE COURSE:

1

INSTRUCTOR (S) LIKELY TO TEACH THE COURSE IN THE COMING YEAR:

Dr. P. Mirza-Babaei

SAMPLE TEXTBOOK

Rogers, Y., Sharp, H., Preece, J. (2011). Interaction Design: Beyond Human - Computer Interaction (3rd Edition). Wiley. ISBN-10: 0470665769 | ISBN-13: 9780470665763

ANY RESOURCES TO BE PURCHASED/PROVIDED BY STUDENTS:

CREATOR :   **P. Mirza-Babaei** _____

FACULTY QUALIFICATIONS (ACADEMIC AND EXPERIENCE) TO TEACH THE COURSE:

PhD in computer science or a related field. Research and experience in the human computer interfaces and systems design.

BIBLIOGRAPHY:

List of bibliography will be prepared by the instructor to stay current with the market trend. The Library currently subscribes to many computer science and information science journals it is not expected that additional periodical subscriptions maybe necessary.

OTHER RESOURCES:

This course only requires a technology-enhanced classroom with laptop connections, data projector, and internet access. This type of classroom is already existed in our current building. There are no special equipment or lab facilities to support the offering of this course.

COURSE RATIONAL:

This specific offering will support the application of concepts in HCI to support learning outcomes in this area which are critical for student accreditation by CCICT.

FACULTY APPROVAL FOR CROSS-LISTINGS:

APPROVAL DATES:

Date of submission	October 17, 2013
Curriculum Committee approval	June, 2014
Faculty Council approval	August 28, 2014

NEW

COURSE CHANGE TEMPLATE

For new courses see New Course Template

Faculty: FBIT	
Course number:BUSI 3530U	**Current course title:**
____ Core x_ Elective	

COURSE CHANGES (check all that apply)

x	Course title			Credit weighting
	Course description			Contact hours
	Course number		x	Prerequisites
	Course design			Co-requisites
	Learning outcomes			Cross-listings
	Mode of delivery			Credit restrictions
	Teaching and assessment methods			Credit exclusions
	Delete course			Other (please specify):

REASON FOR CHANGE AND WAYS IN WHICH IT MAINTAINS/ENHANCES COURSE OBJECTIVES

The course has not been offered since the e-commerce specialization was part of the BCom 4 years ago. Since that time, the technology has changed. The pre-requisite sequence will also be different in the Informatics program where this course will now be an elective. BUSI 1830U is no longer offered in FBIT.

CHANGE TO CALENDAR ENTRY

Current	Proposed
BUSI 3530U HTML and Website Design and Management. This course introduces HTML programming and other web design tools. It also covers the basics of installation, configuration, and administration of web servers, including firewalls and proxy servers. Techniques on website management, collection and analysis of web server statistics, website enhancement, and content	**BUSI 3530U Website Design and Management.** This course introduces HTML programming, content management systems, and other web design tools. Techniques on website management, collection and analysis of web server and social media statistics, website enhancement, and content management will be discussed. 3 cr, 3 lec. Prerequisites:

management will be discussed. 3 cr, 3 lec. Prerequisites: BUSI 1830U and BUSI 3040U, or INFR 1100U.	INFR 1100U and 3rd year standing.

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

APPROVAL DATES

Curriculum Committee approval	October 17, 2013
Faculty Council approval	June, 2014
Date of Submission to CPRC/GSC	August 28, 2014

COURSE CHANGE TEMPLATE

For new courses see New Course Template

Faculty: FBIT	
Course number: BUSI 3580U **_____ Core x_____** **Elective**	**Current course title: WWW Networking**

COURSE CHANGES (check all that apply)

x	Course title		Credit weighting
	Course description		Contact hours
	Course number		Prerequisites
	Course design		Co-requisites
	Learning outcomes		Cross-listings
	Mode of delivery		Credit restrictions
	Teaching and assessment methods		Credit exclusions
	Delete course		Other (please specify):

REASON FOR CHANGE AND WAYS IN WHICH IT MAINTAINS/ENHANCES COURSE OBJECTIVES

The new title is more descriptive of the course

CHANGE TO CALENDAR ENTRY

Current	Proposed
WWW Networking	**Network Systems**

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

APPROVAL DATES

Curriculum Committee approval	October 17, 2013

COURSE CHANGE TEMPLATE

For new courses see New Course Template

Faculty: FBIT	
Course number:BUSI 3650U **____ Core x_ Elective**	**Current course title: Innovation Management**

COURSE CHANGES (check all that apply)

	Course title		Credit weighting
	Course description		Contact hours
	Course number	x	Prerequisites
	Course design		Co-requisites
	Learning outcomes		Cross-listings
	Mode of delivery		Credit restrictions
	Teaching and assessment methods		Credit exclusions
	Delete course		Other (please specify):

REASON FOR CHANGE AND WAYS IN WHICH IT MAINTAINS/ENHANCES COURSE OBJECTIVES

This course will be an elective for the Informatics program and therefore the prerequisites need to be updated to reflect that.

CHANGE TO CALENDAR ENTRY

Current	Proposed
BUSI 3650U Innovation Management. This course will introduce students to the techniques and tools used to manage the innovation process for a variety of forms of innovation (including product, services, processes, social and technological). Students will be introduced to topics such as models of innovation, recognizing potential of innovations, supporting organizational change, and commercializing innovations. The importance of leadership, culture and organizational structure on the innovation	**BUSI 3650U Innovation Management.** This course will introduce students to the techniques and tools used to manage the innovation process for a variety of forms of innovation (including product, services, processes, social and technological). Students will be introduced to topics such as models of innovation, recognizing potential of innovations, supporting organizational change, and commercializing innovations. The importance of leadership, culture and organizational structure on the innovation

process will be explored. Using interactive techniques and case studies, students will be able to apply innovation management theories and practices. 3 cr, 3 lec, 1.5 tut. Prerequisite: Third-year standing in BCom (Hons) or BIT (Hons) program.	process will be explored. Using interactive techniques and case studies, students will be able to apply innovation management theories and practices. 3 cr, 3 lec, 1.5 tut. Prerequisite: Third-year standing in a Faculty of Business and Information Technology Program.

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

APPROVAL DATES

Curriculum Committee approval	October 17, 2013
Faculty Council approval	June, 2014
Date of Submission to CPRC/GSC	August 28, 2014

COURSE CHANGE TEMPLATE

For new courses see New Course Template

Faculty: FBIT	
Course number: BUSI 1450U **_x___Core** **_____** **Elective**	**Current course title: Statistics**

COURSE CHANGES (check all that apply)

	Course title		Credit weighting
	Course description		Contact hours
	Course number	x	Prerequisites
	Course design		Co-requisites
	Learning outcomes		Cross-listings
	Mode of delivery		Credit restrictions
	Teaching and assessment methods		Credit exclusions
	Delete course		Other (please specify):

REASON FOR CHANGE AND WAYS IN WHICH IT MAINTAINS/ENHANCES COURSE OBJECTIVES

Add the Informatics Mathematics II course as a potential pre-requisite for statistics to all Informatics students access to this course

CHANGE TO CALENDAR ENTRY

Current	Proposed
BUSI 1916U	**BUSI 1916U or INFR 1041U**

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

APPROVAL DATES

Curriculum Committee approval	October 17, 2013
Faculty Council approval	June, 2014

Date of Submission to CPRC/GSC	August 28, 2014

COURSE CHANGE TEMPLATE

For new courses see New Course Template

Faculty: FBIT
Course number: BUSI 4590U   **Current course title: Special Project in e-Business and e-Commerce**   **_x___Core**   **_____**   **Elective**

COURSE CHANGES (check all that apply)

x	Course title		Credit weighting
x	Course description		Contact hours
	Course number	x	Prerequisites
	Course design		Co-requisites
	Learning outcomes		Cross-listings
	Mode of delivery		Credit restrictions
	Teaching and assessment methods		Credit exclusions
	Delete course		Other (please specify):

REASON FOR CHANGE AND WAYS IN WHICH IT MAINTAINS/ENHANCES COURSE OBJECTIVES

We no longer offer a specialization in e-commerce but have adapted this specialization into the informatics program to reflect changes in industry. As a result, e-commerce has been replaced with informatics across the learning outcomes and description. This course will continue to provide the flexibility to engage students in special projects with industry in the area of informatics as they become available.

CHANGE TO CALENDAR ENTRY

Current	Proposed
BUSI 4590U Special Project in E-Business and E-Commerce. This course is an exploration of current issues and topics in e-business and e-commerce. Specific topics and any additional prerequisites will be announced in the schedule each time this course is offered. This course may be retaken with a change in topic to a maximum of 9 credits. 3 cr, 3 lab. Prerequisite: 9 credits in e-commerce related courses.	**BUSI 4590U Special Project in Informatics.** This course is an exploration of current issues and topics in informatics and technology management. Specific topics and any additional prerequisites will be announced in the schedule each time this course is offered. This course may be retaken with a change in topic to a maximum of 9 credits. 3 cr, 3 lab. Prerequisite: 9 credits in informatics related courses.

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

APPROVAL DATES

Curriculum Committee approval	October 17, 2013
Faculty Council approval	June, 2014
Date of Submission to CPRC/GSC	August 28, 2014

COURSE CHANGE TEMPLATE

For new courses see New Course Template

Faculty: FBIT	
Course number: BUSI 4599U _x___ Core ____ Elective	**Current course title: Directed Independent Studies in e-Business and e-Commerce**

COURSE CHANGES (check all that apply)

x	Course title			Credit weighting
x	Course description			Contact hours
	Course number		x	Prerequisites
	Course design			Co-requisites
	Learning outcomes			Cross-listings
	Mode of delivery			Credit restrictions
	Teaching and assessment methods			Credit exclusions
	Delete course			Other (please specify):

REASON FOR CHANGE AND WAYS IN WHICH IT MAINTAINS/ENHANCES COURSE OBJECTIVES

We no longer offer a specialization in e-commerce but have adapted this specialization into the informatics program to reflect changes in industry. As a result, e-commerce has been replaced with informatics across the learning outcomes and description. This course will continue to provide the flexibility to engage students in directed studies in emerging areas of informatics as they become available.

CHANGE TO CALENDAR ENTRY

Current	Proposed
BUSI 4599U Directed Independent Studies in E-Business and E-Commerce. This is a project-based course as supervised by one or more faculty members on an approved topic related to current trends and issues in e-business and e-commerce. 3 cr. Prerequisites: BUSI 3501U, BUSI 3502U, one 3000-level e-commerce related course and permission of instructor.	**BUSI 4599U Directed Independent Studies in Informatics.** This is a project-based course as supervised by one or more faculty members on an approved topic related to current trends and issues in informatics. 3 cr. Prerequisites: BUSI 3550U, two additional 3000-level or above informatics related course and permission of instructor.

CONSULTATION AND FINANCIAL IMPLICATIONS, WHERE APPROPRIATE

APPROVAL DATES

Curriculum Committee approval	October 17, 2013
Faculty Council approval	June, 2014
Date of Submission to CPRC/GSC	August 28, 2014

Appendix C – Program Learning Outcomes to Curriculum Mapping

Curriculum Mapping - Business Informatics	INFR1040U Mathematics I			INFR1041U Mathematics II			BUSI1600U Management of the Enterprise			BUSI1020U Business Communications			BUSI1520U Business Computer Applications		
Original Course Number / Name — I= Introduction of topic; D= Development of Topic; A = Application of Topic	Basics of Operations and Sets	Systems of Equations	Logic	Inductions and proofs	Integration	Derivates	Intro to functional areas	General Organization Structures	Operational areas of business	Oreal Communications	Written Communications	Technical Writing	Word processing and office automation software	Functions and applications in Excel	Macro Development
Year	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1. Business Processes															
Compare and contrast the role, processes and structure of support functions of a business (e.g. general management, marketing, finance, R&D, IT, human resources)							I	I							
Discriminate among the role, processes and structures of operational functions of a business (e.g. sales, manufacturing, distribution, customer support							I	I	D						
Apply appropriate knowledge areas from the International Institute of Business Analysis (IIBA) Business Analysis Body of Knowledge (BABOK) to manage specific projects															
Analyze and evaluate a business process, develop the "to-be" design, and then to create the implementation plan and the business change management plan to implement this design															
2. Project and Change Management															
Explain the financial, operational, and reputational risk management. Articulate the implications for business decisions of cyclical and even-driven external risks (e.g. credit crunch, pandemics, global warming, peak oil)							I		I						
Create and justify a risk management plan to mitigate risks inherent in business in the implementation of information and communications technologies (e.g. systems development, data security and privacy, business continuity, outsourcing, off-shoring and infrastructure)							I	I							
Compare and contrast the choices and activities in procurement and management of purchased IT products and services															
Apply the Project Management Institute's Project Management Body of Knowledge (PMBOK)'s approach to academic and industry based projects															
Appraise the best practices for organizational change management															
Create an appropriate IT and lifecycle management plan (networks, desktop and data centre hardware, operating systems, databases) for a given organization or project.															
Evaluate IT investment decisions (e.g. make technology choices that will ease the integration of unpredictable future technologies)															
3. Strategy and Economics of Information															
Optimize the contributions of IT to the competitive strategies, innovations, decision-making and operations of various sizes and types of organizations, industry sectors, processes and functions															
Describe the impact of IT for individuals, groups, and communities, including culture, social and environmental issues															
Explain the business values, economics and governance of IT and the IT function within organizations, including IT's role, structure, challenges and career paths															
Evaluate the choices and activities in procurement and management of purchased IT products and services based on the structure, offerings, and dynamics of the Canadian and international IT industries. This includes the economics of ICTs and specific subsectors (e.g., ERP, open source, outsourcing, web, mobility)															
4. Information Technology															
Evaluate Data Standards and utilize these standards in the design of systems															
Explain, and evaluate Information Quality and the effect on decisions															
Describe and explain the theoretical and practical elements of legal requirement and ethical practices in the collection and storage of information															
5. Strategic Use of Business Intelligence & Data Analytics															
Appraise the discipline of knowledge discovery and data mining and its differences to transaction/operational systems															
Design date warehouse based data stores.															
Experiment with examples of business intelligence and data analysis including the use of various qualitative and quantitative methods of analysis to achieve a strategic goal															
Compose appropriate user interface mechanisms with information and knowledge created by business intelligence and data analysis solutions															
Examine introductory concepts relating to ethics and privacy and the challenges these place on knowledge discovery and data mining															
6. Systems Design															
Analyze a business need, develop an RFx, evaluate the responses, and structure a contract with the successful vendor. Evaluate the effectiveness, appropriateness and usability of an implemented information system															
Explain, create, and evaluate algorithms, data structures, and networked communication protocols to develop modern computer software															
Explain the current and future issues in IT operations (e.g. delivery of service levels, change control, green IT)															
Set-up and analyze hardware capabilities, runtime structures, and software interoperability															
Justify choice of programming language, hardware architecture, and functional or object-oriented software design															

Curriculum Mapping - Business Informatics

I= Introduction of topic; D= Development of Topic; A = Application of Topic	Basics of Operations and Sets	Systems of Equations	Logic	Inductions and proofs	Integration	Deriviates	Intro to functional areas	General Organization Structures	Operational areas of business	Oreal Communications	Written Communications	Technical Writing	Word processing and office automation software	Functions and applications in Excel	Macro Development
Original Course Number	INFR1040U			INFR1041U			BUSI1600U			BUSI1020U			BUSI1520U		
Original Course Name	Mathematics I			Mathematics II			Management of the Enterprise			Business Communications			Business Computer Applications		
Year	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7. Technology and Security															
Describe and explain the theoretical and practical elements of IT security and security management, including practices, policies and procedures, in the context of the changing needs of IT for organizations.															
Describe and explain aspects of IT security and security management in the context of the wider world, addressing legislative and societal requirements															
Explain the technical concepts of IT Security, including cryptography, malicious logic, identity and auditing															
Construct, explain, and evaluate security policies and procedures															
Develop and execute technology-focused and user-centred performance and usability evaluations															
8. General Business															
Discuss the history and interpret the current role and future trends (e.g. globalization, social responsibility) of business within society and the global economy							ID	ID	ID						
Compare and contrast various business designs and models (e.g. networked, supply chains, open innovation, collaborative ecosystems) and formulate appropriate models for various cases.							ID	ID	ID						
Compare and contrast various kinds of organizations by industry sector, ownership, governance and size – their business models, key performance factors, dominant structures and processes							ID	ID	ID						
9. Team Management															
Evaluate and apply the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)							I	I	I						
Persuade, influence, motivate and provide guidance (In a team setting)										I	I				
Facilitate a range of group innovation, analysis and decision making techniques (In a team setting)															
Engender and sustain trust of team members (In a team setting)															
Effectively use technologies to facilitate and support group activities and processes (In a team setting)														I	
Exhibit an understanding of the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)							I	I	I						
10. Communications															
Apply a mastery of ethical reasoning, client relationship management, business courtesies and self-presentation in all aspects of the program								I		I					
Communicate clearly, efficiently and effectively in both oral and written methods in a business context										I	I	I	D	D	
Construct a strategy for business communications leveraging social media tools, practices and networks										I	I	I	I		
Formulate ideas effectively in public presentation settings, including graphics, layout and writing components										I	I	I	D	I	
11. Critical, Innovative Thinking and Ethics															
Evaluate a new technology, criticize its strengths and weaknesses, appraise its usefulness to solve business problems and clearly, effectively and efficiently communicate the results										I	I	I			
Interpret the overall organizational learning and innovation process / life-cycle, and evaluate its role in organizational success							I	I	I						
12. Integrative															
Analyse a business problem – collect relevant information, describe and compare options and risks, and make recommendations. Appropriately use of relevant techniques such as systems thinking, qualitative, and quantitative analysis	I	ID	ID	ID	ID	ID	I	I	I					I	I
Design and communicate a moderately complex technology-enabled solution to a business problem										D	D	D	D		D
Effectively plan, manage and lead a business technology project										I	I	I	I	I	
Apply and synthesize programming knowledge with an understanding of business processes and practice.															I
Manage software and creative web and media application teams										I	I	I			D

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Curriculum Mapping - Business Informatics

	INFR1100U — Intro to Programming			INFR2140U — Object-Oriented Programming			BUSI1010U — Critical Thinking & Ethics			BUSI2050U — Managerial Economics			BUSI1450U — Statistics			BUSI2311U — Organizational Behaviour		
I= Introduction of topic; D= Development of Topic; A = Application of Topic	Variables and basics data structures	Arrays and linked lists	Loops and basic sorts	Definitions and object classes	Algorithms and complexity	Polymorphisms	Logic Structures	Critical Thinking	Business Ethics	Supply and Demand	International Economics and Exchange rates	Governemnt Influences	Introduction to Probability	Hypothesis Testing	Regression Analysis	Group Dyamics and Decision making	Leadership and motivation	Culture
Year	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
1. Business Processes																		
Compare and contrast the role, processes and structure of support functions of a business (e.g. general management, marketing, finance, R&D, IT, human resources)																	I	
Discriminate among the role, processes and structures of operational functions of a business (e.g. sales, manufacturing, distribution, customer support																		
Apply appropriate knowledge areas from the International Institute of Business Analysis (IIBA) Business Analysis Body of Knowledge (BABOK) to manage specific projects																	I	I
Analyze and evaluate a business process, develop the "to-be" design, and then to create the implementation plan and the business change management plan to implement this design							I	I										
2. Project and Change Management																		f
Explain the financial, operational, and reputational risk management. Articulate the implications for business decisions of cyclical and even-driven external risks (e.g. credit crunch, pandemics, global warming, peak oil)													I	I	I			I
Create and justify a risk management plan to mitigate risks inherent in business in the implementation of information and communications technologies (e.g. systems development, data security and privacy, business continuity, outsourcing, off-shoring and infrastructure)											I	I						
Compare and contrast the choices and activities in procurement and management of purchased IT products and services																		
Apply the Project Management Institute's Project Management Body of Knowledge (PMBOK)'s approach to academic and industry based projects																		
Appraise the best practices for organizational change management																I	I	I
Create an appropriate IT and lifecycle management plan (networks, desktop and data centre hardware, operating systems, databases) for a given organization or project.																		
Evaluate IT investment decisions(e.g. make technology choices that will ease the integration of unpredictable future technologies)								I										
3. Strategy and Economics of Information																		
Optimize the contributions of IT to the competitive strategies, innovations, decision-making and operations of various sizes and types of organizations, industry sectors, processes and functions																		
Describe the impact of IT for individuals, groups, and communities, including culture, social and environmental issues																		ID
Explain the business values, economics and governance of IT and the IT function within organizations, including IT's role, structure, challenges and career paths											I	I						
Evaluate the choices and activities in procurement and management of purchased IT products and services based on the structure, offerings, and dynamics of the Canadian and international IT industries. This includes the economics of ICTs and specific subsectors (e.g., ERP, open source, outsourcing, web, mobility)																		
4. Information Technology																		
Evaluate Data Standards and utilize these standards in the design of systems																		
Explain, and evaluate Information Quality and the effect on decisions																		
Describe and explain the theoretical and practical elements of legal requirement and ethical practices in the collection and storage of information																		
5. Strategic Use of Business Intelligence & Data Analytics																		
Appraise the discipline of knowledge discovery and data mining and its differences to transaction/operational systems																		
Design date warehouse based data stores.																		
Experiment with examples of business intelligence and data analysis including the use of various qualitative and quantitative methods of analysis to achieve a strategic goal													I	I	I			
Compose appropriate user interface mechanisms with information and knowledge created by business intelligence and data analysis solutions																		
Examine introductory concepts relating to ethics and privacy and the challenges these place on knowledge discovery and data mining									I									
6. Systems Design																		
Analyze a business need, develop an RFx, evaluate the responses, and structure a contract with the successful vendor. Evaluate the effectiveness, appropriateness and usability of an implemented information system																		
Explain, create, and evaluate algorithms, data structures, and networked communication protocols to develop modern computer software	ID	ID	ID	D	D													
Explain the current and future issues in IT operations (e.g. delivery of service levels, change control, green IT)																		
Set-up and analyze hardware capabilities, runtime structures, and software interoperability				I	I	I												
Justify choice of programming language, hardware architecture, and functional or object-oriented software design				I														

Curriculum Mapping - Business Informatics

Original Course Number	INFR1100U			INFR2140U			BUSI1010U			BUSI2050U			BUSI1450U			BUSI2311U		
Original Course Name	Intro to Programming			Object-Oriented Programming			Critical Thinking & Ethics			Managerial Economics			Statistics			Organizational Behaviour		
I= Introduction of topic; D= Development of Topic; A = Application of Topic	Variables and basics data structures	Arrays and linked lists	Loops and basic sorts	Definitions and object classes	Algorithms and complexity	Polymorphisms	Logic Structures	Critical Thinking	Business Ethics	Supply and Demand	International Economics and Exchange rates	Governemnt Influences	Introduction to Probability	Hypothesis Testing	Regression Analysis	Group Dyamics and Decision making	Leadership and motivation	Culture
Year	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
7. Technology and Security																		
Describe and explain the theoretical and practical elements of IT security and security management, including practices, policies and procedures, in the context of the changing needs of IT for organizations.																		
Describe and explain aspects of IT security and security management in the context of the wider world, addressing legislative and societal requirements																		
Explain the technical concepts of IT Security, including cryptography, malicious logic, identity and auditing																		
Construct, explain, and evaluate security policies and procedures																		
Develop and execute technology-focused and user-centred performance and usability evaluations																		
8. General Business																		
Discuss the history and interpret the current role and future trends (e.g. globalization, social responsibility) of business within society and the global economy										ID	ID	ID					D	ID
Compare and contrast various business designs and models (e.g. networked, supply chains, open innovation, collaborative ecosystems) and formulate appropriate models for various cases.											D	D						I
Compare and contrast various kinds of organizations by industry sector, ownership, governance and size – their business models, key performance factors, dominant structures and processes										ID	ID	ID					D	D
9. Team Management																		
Evaluate and apply the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)								I			D	D				D	D	D
Persuade, influence, motivate and provide guidance (In a team setting)																D	D	D
Facilitate a range of group innovation, analysis and decision making techniques (In a team setting)																D	D	D
Engender and sustain trust of team members (In a team setting)																ID	D	D
Effectively use technologies to facilitate and support group activities and processes (In a team setting)	ID			ID	ID											ID	D	D
Exhibit an understanding of the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)											ID	ID				D	D	D
10. Communications																		
Apply a mastery of ethical reasoning, client relationship management, business courtesies and self-presentation in all aspects of the program								I	ID							D	D	
Communicate clearly, efficiently and effectively in both oral and written methods in a business context									D							A	A	A
Construct a strategy for business communications leveraging social media tools, practices and networks																		
Formulate ideas effectively in public presentation settings, including graphics, layout and writing components									D							A	A	A
11. Critical, Innovative Thinking and Ethics																		
Evaluate a new technology, criticize its strengths and weaknesses, appraise its usefulness to solve business problems and clearly, effectively and efficiently communicate the results						I	I											
Interpret the overall organizational learning and innovation process / life-cycle, and evaluate its role in organizational success							I				I	I				D		
12. Integrative																		
Analyse a business problem – collect relevant information, describe and compare options and risks, and make recommendations. Appropriately use of relevant techniques such as systems thinking, qualitative, and quantitative analysis							D	D	D	D	D	ID	ID	ID	ID			
Design and communicate a moderately complex technology-enabled solution to a business problem	I	I	I		I													
Effectively plan, manage and lead a business technology project										D	D					ID	ID	ID
Apply and synthesize programming knowledge with an understanding of business processes and practice.	I	I	I	D	D	D												
Manage software and creative web and media application teams	D	D	D	D	D	D												

Curriculum Mapping - Business Informatics

	BUSI2410U Managerial Finance			BUSI2603U Operations Management			BUSI2210U Marketing in IT Sector			BUSI2550U Introduction to Project Management			INFR2820U Algorithms and Data Structures			INFR2600U Introduction to IT Security		
I= Introduction of topic; D= Development of Topic; A = Application of Topic	Project Valuation and Capital Budgeting	Financial Securities and Markets	Measuring Risk	Scheduling and forecasting	Quality Control	Inventory Control	Developing marketing plans	5 Ps of marketing	Consumer Behaviour	Project Framework	Managing Human Capital	Project Management Tools	Advanced Datastructures	Algorithms for Problem Solving	Complexity Analysis	Fundamentals	Cryptography and Access Control	Security Management
Year	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1. Business Processes																		
Compare and contrast the role, processes and structure of support functions of a business (e.g. general management, marketing, finance, R&D, IT, human resources)	D		DA	D	D	D	DA	D	DA									
Discriminate among the role, processes and structures of operational functions of a business (e.g. sales, manufacturing, distribution, customer support	D		DA	D	D	D	DA	DA	DA									
Apply appropriate knowledge areas from the International Institute of Business Analysis (IIBA) Business Analysis Body of Knowledge (BABOK) to manage specific projects										IDA	IDA	IDA						
Analyze and evaluate a business process, develop the "to-be" design, and then to create the implementation plan and the business change management plan to implement this design				D	D													
2. Project and Change Management																		
Explain the financial, operational, and reputational risk management. Articulate the implications for business decisions of cyclical and even-driven external risks (e.g. credit crunch, pandemics, global warming, peak oil)	ID	ID		D	D			D	ID	D						D		ID
Create and justify a risk management plan to mitigate risks inherent in business in the implementation of information and communications technologies (e.g. systems development, data security and privacy, business continuity, outsourcing, off-shoring and infrastructure)																		ID
Compare and contrast the choices and activities in procurement and management of purchased IT products and services					I	I												
Apply the Project Management Institute's Project Management Body of Knowledge (PMBOK)'s approach to academic and industry based projects						I				ID	ID	ID						A
Appraise the best practices for organizational change management											I	I						
Create an appropriate IT and lifecycle management plan (networks, desktop and data centre hardware, operating systems, databases) for a given organization or project.																		
Evaluate IT investment decisions(e.g. make technology choices that will ease the integration of unpredictable future technologies)	I	I	I							I		I						
3. Strategy and Economics of Information																		
Optimize the contributions of IT to the competitive strategies, innovations, decision-making and operations of various sizes and types of organizations, industry sectors, processes and functions																		
Describe the impact of IT for individuals, groups, and communities, including culture, social and environmental issues	I			I	I	I		I								I		I
Explain the business values, economics and governance of IT and the IT function within organizations, including IT's role, structure, challenges and career paths																		
Evaluate the choices and activities in procurement and management of purchased IT products and services based on the structure, offerings, and dynamics of the Canadian and international IT industries. This includes the economics of ICTs and specific subsectors (e.g., ERP, open source, outsourcing, web, mobility)																		
4. Information Technology																		
Evaluate Data Standards and utilize these standards in the design of systems																	I	I
Explain, and evaluate Information Quality and the effect on decisions																		
Describe and explain the theoretical and practical elements of legal requirement and ethical practices in the collection and storage of information																I	I	I
5. Strategic Use of Business Intelligence & Data Analytics																		
Appraise the discipline of knowledge discovery and data mining and its differences to transaction/operational systems																		
Design date warehouse based data stores.																		
Experiment with examples of business intelligence and data analysis including the use of various qualitative and quantitative methods of analysis to achieve a strategic goal																		
Compose appropriate user interface mechanisms with information and knowledge created by business intelligence and data analysis solutions																		
Examine introductory concepts relating to ethics and privacy and the challenges these place on knowledge discovery and data mining																	ID	ID
6. Systems Design																		
Analyze a business need, develop an RFx, evaluate the responses, and structure a contract with the successful vendor. Evaluate the effectiveness, appropriateness and usability of an implemented information system												ID				D		
Explain, create, and evaluate algorithms, data structures, and networked communication protocols to develop modern computer software																	D	
Explain the current and future issues in IT operations (e.g. delivery of service levels, change control, green IT)																		
Set-up and analyze hardware capabilities, runtime structures, and software interoperability																		
Justify choice of programming language, hardware architecture, and functional or object-oriented software design														ID	ID			D

Curriculum Mapping - Business Informatics

	BUSI2410U Managerial Finance			BUSI2603U Operations Management			BUSI2210U Marketing in IT Sector			BUSI2550U Introduction to Project Management			INFR2820U Algorithms and Data Structures			INFR2600U Introduction to IT Security		
I= Introduction of topic; D= Development of Topic; A = Application of Topic	Project Valuation and Capital Budgeting	Financial Securities and Markets	Measuring Risk	Scheduling and forecasting	Quality Control	Inventroy Control	Developing marketing plans	5 Ps of marketing	Consumer Behaviour	Project Framework	Manging Human Capital	Project Management Tools	Advanced Datastructures	Algorithms for Problem Solving	Complexity Analysis	Fundamentals	Cryptography and Access Control	Security Management
Year	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7. Technology and Security																		
Describe and explain the theoretical and practical elements of IT security and security management, including practices, policies and procedures, in the context of the changing needs of IT for organizations.																ID		
Describe and explain aspects of IT security and security management in the context of the wider world, addressing legislative and societal requirements													ID	ID	ID	ID	ID	ID
Explain the technical concepts of IT Security, including cryptography, malicious logic, identity and auditing																	ID	ID
Construct, explain, and evaluate security policies and procedures													DA	DA	DA	ID		
Develop and execute technology-focused and user-centred performance and usability evaluations															ID	ID		ID
8. General Business																		
Discuss the history and interpret the current role and future trends (e.g. globalization, social responsibility) of business within society and the global economy		ID	ID			I												
Compare and contrast various business designs and models (e.g. networked, supply chains, open innovation, collaborative ecosystems) and formulate appropriate models for various cases.					I	I												
Compare and contrast various kinds of organizations by industry sector, governance and size – their business models, key performance factors, dominant structures and processes			D									D						
9. Team Management																		
Evaluate and apply the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)							D	D	D	D	D	D						
Persuade, influence, motivate and provide guidance (In a team setting)							D	D	D	D	D	D				A	A	A
Facilitate a range of group innovation, analysis and decision making techniques (In a team setting)							D	D	D	D	D	D				A	A	A
Engender and sustain trust of team members (In a team setting)										D	D	D				A	A	A
Effectively use technologies to facilitate and support group activities and processes (In a team setting)										D	D	D				A	A	A
Exhibit an understanding of the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)										D	D	D						
10. Communications																		
Apply a mastery of ethical reasoning, client relationship management, business courtesies and self-presentation in all aspects of the program							D	D	D	D	D	D	D	D	D			A
Communicate clearly, efficiently and effectively in both oral and written methods in a business context	A	A	A	A	A	A	A	A	A	A	A	A	D	D	D	A	A	A
Construct a strategy for business communications leveraging social media tools, practices and networks							D		D				ID	D	D			
Formulate ideas effectively in public presentation settings, including graphics, layout and writing components	A	A	A	A	A	A	A	A	A	A	A	A				A	A	A
11. Critical, Innovative Thinking and Ethics																		
Evaluate a new technology, criticize its strengths and weaknesses, appraise its usefulness to solve business problems and clearly, effectively and efficiently communicate the results														ID	ID	ID	D	ID
Interpret the overall organizational learning and innovation process / life-cycle, and evaluate its role in organizational success					D	D				D								
12. Integrative																		
Analyse a business problem – collect relevant information, describe and compare options and risks, and make recommendations. Appropriately use of relevant techniques such as systems thinking, qualitative, and quantitative analysis	D	D	D	D	D	D	D		D	D			D	D	D			D
Design and communicate a moderately complex technology-enabled solution to a business problem													I	I	I			
Effectively plan, manage and lead a business technology project	D	D								ID	ID	ID						D
Apply and synthesize programming knowledge with an understanding of business processes and practice.													I	I	I		D	D
Manage software and creative web and media application teams													D	D	D			

Curriculum Mapping - Business Informatics

I= Introduction of topic; D= Development of Topic; A = Application of Topic	BUSI3550U Systems Analysis and Design			INFR1550U Law and Ethics of IT			BUSI2120U Accounting for IT			BUSI3040U Information Systems			BUSI 3330U The Management of Change			BUSI3504U Database Systems & BI		
	Requirements gathering (Use case)	System Design (DFDs)	System Testing Methods	Basic Law	Ethics of IT	IT Law	Financial Statements	Accounting Cycle	Accounting metrics for decision making	Strategic use of IS	Types of IS	eBusiness	Change Management Complexity and Practices	Planning for Change	Overcoming obstacles and recovery	Database Design (ERD)	Introduction to Business Intelligence	Introduction to SQL
Year	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3
1. Business Processes																		
Compare and contrast the role, processes and structure of support functions of a business (e.g. general management, marketing, finance, R&D, IT, human resources)							D	D	DA	A			A	A	A			
Discriminate among the role, processes and structures of operational functions of a business (e.g. sales, manufacturing, distribution, customer support							D	D	DA	A			A	A	A			
Apply appropriate knowledge areas from the International Institute of Business Analysis (IIBA) Business Analysis Body of Knowledge (BABOK) to manage specific projects												D	A	A	A			
Analyze and evaluate a business process, develop the "to-be" design, and then to create the implementation plan and the business change management plan to implement this design										D		D		A	A			
2. Project and Change Management																		
Explain the financial, operational, and reputational risk management. Articulate the implications for business decisions of cyclical and even-driven external risks (e.g. credit crunch, pandemics, global warming, peak oil)				I		I								A	A			
Create and justify a risk management plan to mitigate risks inherent in business in the implementation of information and communications technologies (e.g. systems development, data security and privacy, business continuity, outsourcing, off-shoring and infrastructure)		D								I	I	I			A			
Compare and contrast the choices and activities in procurement and management of purchased IT products and services								I		I		I						
Apply the Project Management Institute's Project Management Body of Knowledge (PMBOK)'s approach to academic and industry based projects	A																	
Appraise the best practices for organizational change management	A		A							A			I	ID	DA			
Create an appropriate IT and lifecycle management plan (networks, desktop and data centre hardware, operating systems, databases) for a given organization or project.												I		DA	DA		I	
Evaluate IT investment decisions(e.g. make technology choices that will ease the integration of unpredictable future technologies)												ID		A	A		I	
3. Strategy and Economics of Information																		
Optimize the contributions of IT to the competitive strategies, innovations, decision-making and operations of various sizes and types of organizations, industry sectors, processes and functions										ID	I	D			A		ID	
Describe the impact of IT for individuals, groups, and communities, including culture, social and environmental issues	DA									ID				A	A			
Explain the business values, economics and governance of IT and the IT function within organizations, including IT's role, structure, challenges and career paths										I	I	I		A	A			
Evaluate the choices and activities in procurement and management of purchased IT products and services based on the structure, offerings, and dynamics of the Canadian and international IT industries. This includes the economics of ICTs and specific subsectors (e.g., ERP, open source, outsourcing, web, mobility)												I					I	
4. Information Technology																		
Evaluate Data Standards and utilize these standards in the design of systems	D	D	D							A	A	A	A	A	A	DA	DA	
Explain, and evaluate Information Quality and the effect on decisions	D	D	D							A	A	A		DA	A	D	DA	
Describe and explain the theoretical and practical elements of legal requirement and ethical practices in the collection and storage of information				ID	ID	ID				A	A	A	D	DA	D	DA	DA	
5. Strategic Use of Business Intelligence & Data Analytics																		
Appraise the discipline of knowledge discovery and data mining and its differences to transaction/operational systems												I				I		
Design date warehouse based data stores.												ID						
Experiment with examples of business intelligence and data analysis including the use of various qualitative and quantitative methods of analysis to achieve a strategic goal												I					ID	
Compose appropriate user interface mechanisms with information and knowledge created by business intelligence and data analysis solutions	ID	ID										I				I	I	
Examine introductory concepts relating to ethics and privacy and the challenges these place on knowledge discovery and data mining					I											I	I	
6. Systems Design																		
Analyze a business need, develop an RFx, evaluate the responses, and structure a contract with the successful vendor. Evaluate the effectiveness, appropriateness and usability of an implemented information system		ID	D	D						I	ID	ID	A	A	A	ID		
Explain, create, and evaluate algorithms, data structures, and networked communication protocols to develop modern computer software		ID	D	D														D
Explain the current and future issues in IT operations (e.g. delivery of service levels, change control, green IT)											ID	ID	ID	ID	D	D		
Set-up and analyze hardware capabilities, runtime structures, and software interoperability		D	D	D										A	A	D	D	
Justify choice of programming language, hardware architecture, and functional or object-oriented software design		D	DA											A	A			

Curriculum Mapping - Business Informatics

I= Introduction of topic; D= Development of Topic; A = Application of Topic	BUSI3550U — Systems Analysis and Design			INFR1550U — Law and Ethics of IT			BUSI2120U — Accounting for IT			BUSI3040U — Information Systems			BUSI 3330U — The Management of Change			BUSI3504U — Database Systems & BI		
	Requirements gathering (Use case)	System Design (DFDs)	System Testing Methods	Basic Law	Ethics of IT	IT Law	Financial Statements	Accounting Cycle	Accounting metrics for decision making	Strategic use of IS	Types of IS	eBusiness	Change Management Complexity and Practices	Planning for Change	Overcoming obstacles and recovery	Database Design (ERD)	Introduction to Business Intelligence	Introduction to SQL
Year	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3
7. Technology and Security																		
Describe and explain the theoretical and practical elements of IT security and security management, including practices, policies and procedures, in the context of the changing needs of IT for organizations.	D	D			ID	ID						A						
Describe and explain aspects of IT security and security management in the context of the wider world, addressing legislative and societal requirements					ID	ID												
Explain the technical concepts of IT Security, including cryptography, malicious logic, identity and auditing		D	D															
Construct, explain, and evaluate security policies and procedures					I	ID							A	A				
Develop and execute technology-focused and user-centred performance and usability evaluations	D	D	D			ID							A	A				
8. General Business																		
Discuss the history and interpret the current role and future trends (e.g. globalization, social responsibility) of business within society and the global economy			I				I		D	ID								
Compare and contrast various business designs and models (e.g. networked, supply chains, open innovation, collaborative ecosystems) and formulate appropriate models for various cases.							I		D					A	A			
Compare and contrast various kinds of organizations by industry sector, ownership, governance and size – their business models, key performance factors, dominant structures and processes							I		D	D				A				
9. Team Management																		
Evaluate and apply the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)													A	DA				
Persuade, influence, motivate and provide guidance (In a team setting)	A	A	A	A	A	A				A	A	A	A	A	A	A	A	A
Facilitate a range of group innovation, analysis and decision making techniques (In a team setting)	A	A	A	A	A	A				A	A	A	A	A	A	A	A	A
Engender and sustain trust of team members (In a team setting)	A	A	A	A	A	A				A	A	A	A	A	A	A	A	A
Effectively use technologies to facilitate and support group activities and processes (In a team setting)	A	A	A	A	A	A				A	A	A	A	A	A	A	A	A
Exhibit an understanding of the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)													DA	DA				
10. Communications																		
Apply a mastery of ethical reasoning, client relationship management, business courtesies and self-presentation in all aspects of the program	A	A	A	D	D	D			D	A	A	A					A	
Communicate clearly, efficiently and effectively in both oral and written methods in a business context	A	A	A	A	A	A			D	A	A	A		A	A	A	A	A
Construct a strategy for business communications leveraging social media tools, practices and networks														A	A			
Formulate ideas effectively in public presentation settings, including graphics, layout and writing components	A	A	A	A	A	A			D	A	A	A		A	A	A	A	A
11. Critical, Innovative Thinking and Ethics																		
Evaluate a new technology, criticize its strengths and weaknesses, appraise its usefulness to solve business problems and clearly, effectively and efficiently communicate the results	D	D	D		D	D				D	D	D		A	A	D	A	D
Interpret the overall organizational learning and innovation process / life-cycle, and evaluate its role in organizational success									D	D				DA	DA		A	
12. Integrative																		
Analyse a business problem – collect relevant information, describe and compare options and risks, and make recommendations. Appropriately use of relevant techniques such as systems thinking, qualitative, and quantitative analysis	D	D	D					ID	D	D		D		D	DA			D
Design and communicate a moderately complex technology-enabled solution to a business problem	D	D	D							DA	A	A		D	A		A	
Effectively plan, manage and lead a business technology project	D	D	D									DA		DA	DA	DA	A	A
Apply and synthesize programming knowledge with an understanding of business processes and practice.	D	D	D											DA	DA	D	D	D
Manage software and creative web and media application teams	D	D	D											A		D	DA	DA

Curriculum Mapping - Business Informatics

I= Introduction of topic; D= Development of Topic; A = Application of Topic	BUSI 4591U Topics in Informatics			BUSI 3670U Risk Mgmt Frameworks			INFR4352U HCI			BUSI 4504U Knowledge Disc & DM			INFR 4680U IT Security Policies and Procedures			BUSI3700U Strategic Management for Professionals			BUSI4995U Capstone
	Business Process Modelling	Supplier Management	IT Governance	Risk Mgmt Frameworks	Risk Analysis	Risk Communications	Computer-Supported Collaborative Work	Interaction Design and Designing for New Media	User Interface Design and Testing	Acquisition and storage	Data Mining Techniques	Discovering knowledge	Policy Development	Policy Management and Implementation	IT Security	Strategic Frameworks	Comprehensive Strategy	Economics of Innovation and Technology	Capstone 3 CREDITS
Year	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4
1. Business Processes																			
Compare and contrast the role, processes and structure of support functions of a business (e.g. general management, marketing, finance, R&D, IT, human resources)	A		D												A	A	A		A
Discriminate among the role, processes and structures of operational functions of a business (e.g. sales, manufacturing, distribution, customer support	A														A	A	A		A
Apply appropriate knowledge areas from the International Institute of Business Analysis (IIBA) Business Analysis Body of Knowledge (BABOK) to manage specific projects																			A
Analyze and evaluate a business process, develop the "to-be" design, and then to create the implementation plan and the business change management plan to implement this design	IDA	DA																	A
2. Project and Change Management																			
Explain the financial, operational, and reputational risk management. Articulate the implications for business decisions of cyclical and even-driven external risks (e.g. credit crunch, pandemics, global warming, peak oil)		ID		ID	ID	ID													A
Create and justify a risk management plan to mitigate risks inherent in business in the implementation of information and communications technologies (e.g. systems development, data security and privacy, business continuity, outsourcing, off-shoring and infrastructure)		ID		ID	ID	ID													A
Compare and contrast the choices and activities in procurement and management of purchased IT products and services		ID																	A
Apply the Project Management Institute's Project Management Body of Knowledge (PMBOK)'s approach to academic and industry based projects																			A
Appraise the best practices for organizational change management		ID																	A
Create an appropriate IT and lifecycle management plan (networks, desktop and data centre hardware, operating systems, databases) for a given organization or project.		ID								DA	DA	DA				I			A
Evaluate IT investment decisions(e.g. make technology choices that will ease the integration of unpredictable future technologies)		D	I	D	D	D				A	A	A							A
3. Strategy and Economics of Information																			
Optimize the contributions of IT to the competitive strategies, innovations, decision-making and operations of various sizes and types of organizations, industry sectors, processes and functions		D																	A
Describe the impact of IT for individuals, groups, and communities, including culture, social and environmental issues							A												A
Explain the business values, economics and governance of IT and the IT function within organizations, including IT's role, structure, challenges and career paths		D																	A
Evaluate the choices and activities in procurement and management of purchased IT products and services based on the structure, offerings, and dynamics of the Canadian and international IT industries. This includes the economics of ICTs and specific subsectors (e.g., ERP, open source, outsourcing, web, mobility)		D		D	D	D	I												A
4. Information Technology																			
Evaluate Data Standards and utilize these standards in the design of systems	A		A							A	A	A	A	A	A				
Explain, and evaluate Information Quality and the effect on decisions	A		A							A	A	A	A	A	A				
Describe and explain the theoretical and practical elements of legal requirement and ethical practices in the collection and storage of information			A							A	A	A	A	A	A				
5. Strategic Use of Business Intelligence & Data Analytics																			
Appraise the discipline of knowledge discovery and data mining and its differences to transaction/operational systems										DA	DA	DA							A
Design date warehouse based data stores.										DA	A	A							A
Experiment with examples of business intelligence and data analysis including the use of various qualitative and quantitative methods of analysis to achieve a strategic goal	A								A	DA	DA	DA							A
Compose appropriate user interface mechanisms with information and knowledge created by business intelligence and data analysis solutions							D	D	DA	DA	DA	DA							A
Examine introductory concepts relating to ethics and privacy and the challenges these place on knowledge discovery and data mining							A			I	D	DA			D				A
6. Systems Design																			
Analyze a business need, develop an RFx, evaluate the responses, and structure a contract with the successful vendor. Evaluate the effectiveness, appropriateness and usability of an implemented information system																			A
Explain, create, and evaluate algorithms, data structures, and networked communication protocols to develop modern computer software							A		A		A	A							A
Explain the current and future issues in IT operations (e.g. delivery of service levels, change control, green IT)			A	A	A	A													A
Set-up and analyze hardware capabilities, runtime structures, and software interoperability							A	A	A										A
Justify choice of programming language, hardware architecture, and functional or object-oriented software design							A		A						A				A

Curriculum Mapping - Business Informatics

I= Introduction of topic; D= Development of Topic; A = Application of Topic	BUSI 4591U — Topics in Informatics: Business Process Modelling	Supplier Management	IT Governance	BUSI 3670U — Risk Mgmt Frameworks: Risk Mgmt Frameworks	Risk Analysis	Risk Communications	INFR4352U — HCI: Computer-Supported Collaborative Work	Interaction Design and Designing for New Media	User Interface Design and Testing	BUSI 4504U — Knowledge Disc & DM: Acquisition and storage	Data Mining Techniques	Discovering knowledge	INFR 4680U — IT Security Policies and Procedures: Policy Development	Policy Management and Implementation	IT Security	BUSI3700U — Strategic Management for Professionals: Strategic Frameworks	Comprehensive Strategy	Economics of Innovation and Technology	BUSI4995U — Capstone: Capstone 3 CREDITS
Year	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4
7. Technology and Security																			
Describe and explain the theoretical and practical elements of IT security and security management, including practices, policies and procedures, in the context of the changing needs of IT for organizations.		A	A	A	A										A				A
Describe and explain aspects of IT security and security management in the context of the wider world, addressing legislative and societal requirements		A	A	A	A	A									A				A
Explain the technical concepts of IT Security, including cryptography, malicious logic, identity and auditing																			A
Construct, explain, and evaluate security policies and procedures			A	A	A	A									A				A
Develop and execute technology-focused and user-centred performance and usability evaluations			A			A	DA	DA	DA						A				A
8. General Business																			
Discuss the history and interpret the current role and future trends (e.g. globalization, social responsibility) of business within society and the global economy		D					A									ID	ID	D	A
Compare and contrast various business designs and models (e.g. networked, supply chains, open innovation, collaborative ecosystems) and formulate appropriate models for various cases.		I														ID	ID	D	A
Compare and contrast various kinds of organizations by industry sector, ownership, governance and size – their business models, key performance factors, dominant structures and processes		D														ID	ID	D	A
9. Team Management																			
Evaluate and apply the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)		A			A	A	DA									A	A	A	A
Persuade, influence, motivate and provide guidance (In a team setting)	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Facilitate a range of group innovation, analysis and decision making techniques (In a team setting)	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Engender and sustain trust of team members (In a team setting)	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Effectively use technologies to facilitate and support group activities and processes (In a team setting)	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Exhibit an understanding of the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)				A	A		A			A			A	A	A	A	A	A	A
10. Communications																			
Apply a mastery of ethical reasoning, client relationship management, business courtesies and self-presentation in all aspects of the program		A	A			A	A	A	A	A		A							A
Communicate clearly, efficiently and effectively in both oral and written methods in a business context	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Construct a strategy for business communications leveraging social media tools, practices and networks	A			A		A	DA	A	DA	A		A							A
Formulate ideas effectively in public presentation settings, including graphics, layout and writing components	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
11. Critical, Innovative Thinking and Ethics																			
Evaluate a new technology, criticize its strengths and weaknesses, appraise its usefulness to solve business problems and clearly, effectively and efficiently communicate the results	A	A	A	A	A	A	A	A	A	A	A	A			DA	A	A	A	A
Interpret the overall organizational learning and innovation process / life-cycle, and evaluate its role in organizational success		DA		A	A		A		A	A			A	A	A	DA	DA	DA	A
12. Integrative														A					
Analyse a business problem – collect relevant information, describe and compare options and risks, and make recommendations. Appropriately use of relevant techniques such as systems thinking, qualitative, and quantitative analysis	A	A		DA	DA	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Design and communicate a moderately complex technology-enabled solution to a business problem	A					A	A	A	A	A	A	A	A	A	A	A	A	A	A
Effectively plan, manage and lead a business technology project	A						A	A	A	A	A	A	A	A	A				A
Apply and synthesize programming knowledge with an understanding of business processes and practice.							A		A	A	A	A	A	A	A				A
Manage software and creative web and media application teams							A	A	A	A	A	A							A

Curriculum Mapping - Business Informatics	Informatics Electives (3 Credits Each)							
Original Course Number	BUSI 4610U	BUSI 3502U	BUSI 3530U	BUSI 4510U	BUSI 3650U	BUSI 2610U	BUSI 3450U	INFR 3730U
Original Course Name	Simulation Modeling	e-Commerce	Website Design & Mgmt	Knowledge Mgmt & Ent Sys	Innovation Management	Quality Improvement Frameworks	Forecasting	Multimedia Systems
I= Introduction of topic; D= Development of Topic; A = Application of Topic								
Year								
1. Business Processes								
Compare and contrast the role, processes and structure of support functions of a business (e.g. general management, marketing, finance, R&D, IT, human resources)	A	DA		A	A	A		
Discriminate among the role, processes and structures of operational functions of a business (e.g. sales, manufacturing, distribution, customer support	A			A	A	A		
Apply appropriate knowledge areas from the International Institute of Business Analysis (IIBA) Business Analysis Body of Knowledge (BABOK) to manage specific projects					A	A		
Analyze and evaluate a business process, develop the "to-be" design, and then to create the implementation plan and the business change management plan to implement this design	DA	A			DA	A		
2. Project and Change Management								
Explain the financial, operational, and reputational risk management. Articulate the implications for business decisions of cyclical and even-driven external risks (e.g. credit crunch, pandemics, global warming, peak oil)								
Create and justify a risk management plan to mitigate risks inherent in business in the implementation of information and communications technologies (e.g. systems development, data security and privacy, business continuity, outsourcing, off-shoring and infrastructure)		D	D	D	D			
Compare and contrast the choices and activities in procurement and management of purchased IT products and services								
Apply the Project Management Institute's Project Management Body of Knowledge (PMBOK)'s approach to academic and industry based projects								
Appraise the best practices for organizational change management		A		D	D	A		
Create an appropriate IT and lifecycle management plan (networks, desktop and data centre hardware, operating systems, databases) for a given organization or project.		A	D	A	D			
Evaluate IT investment decisions(e.g. make technology choices that will ease the integration of unpredictable future technologies)		A	A	A				
3. Strategy and Economics of Information								
Optimize the contributions of IT to the competitive strategies, innovations, decision-making and operations of various sizes and types of organizations, industry sectors, processes and functions		A			DA			D
Describe the impact of IT for individuals, groups, and communities, including culture, social and environmental issues		A	A	A	A			
Explain the business values, economics and governance of IT and the IT function within organizations, including IT's role, structure, challenges and career paths								
Evaluate the choices and activities in procurement and management of purchased IT products and services based on the structure, offerings, and dynamics of the Canadian and international IT industries. This includes the economics of ICTs and specific subsectors (e.g., ERP, open source, outsourcing, web, mobility)		A	A	A	A			
4. Information Technology								
Evaluate Data Standards and utilize these standards in the design of systems								
Explain, and evaluate Information Quality and the effect on decisions								
Describe and explain the theoretical and practical elements of legal requirement and ethical practices in the collection and storage of information								
5. Strategic Use of Business Intelligence & Data Analytics								
Appraise the discipline of knowledge discovery and data mining and its differences to transaction/operational systems								
Design date warehouse based data stores.								
Experiment with examples of business intelligence and data analysis including the use of various qualitative and quantitative methods of analysis to achieve a strategic goal						D	D	
Compose appropriate user interface mechanisms with information and knowledge created by business intelligence and data analysis solutions	A	A	A	DA	A			DA
Examine introductory concepts relating to ethics and privacy and the challenges these place on knowledge discovery and data mining								
6. Systems Design								
Analyze a business need, develop an RFx, evaluate the responses, and structure a contract with the successful vendor. Evaluate the effectiveness, appropriateness and usability of an implemented information system		A	A	A				
Explain, create, and evaluate algorithms, data structures, and networked communication protocols to develop modern computer software		A	A	A				
Explain the current and future issues in IT operations (e.g. delivery of service levels, change control, green IT)		A	A	A				
Set-up and analyze hardware capabilities, runtime structures, and software interoperability		A	A	A				
Justify choice of programming language, hardware architecture, and functional or object-oriented software design		A	A					A

Curriculum Mapping - Business Informatics	Informatics Electives (3 Credits Each)							
Original Course Number	BUSI 4610U	BUSI 3502U	BUSI 3530U	BUSI 4510U	BUSI 3650U	BUSI 2610U	BUSI 3450U	INFR 3730U
Original Course Name	Simulation Modeling	e-Commerce	Website Design & Mgmt	Knowledge Mgmt & Ent Sys	Innovation Management	Quality Improvement Frameworks	Forecasting	Multimedia Systems
I= Introduction of topic; D= Development of Topic; A = Application of Topic								
Year								
7. Technology and Security								
Describe and explain the theoretical and practical elements of IT security and security management, including practices, policies and procedures, in the context of the changing needs of IT for organizations.			A					
Describe and explain aspects of IT security and security management in the context of the wider world, addressing legislative and societal requirements			A					
Explain the technical concepts of IT Security, including cryptography, malicious logic, identity and auditing			A					
Construct, explain, and evaluate security policies and procedures			A					
Develop and execute technology-focused and user-centred performance and usability evaluations			A					
8. General Business								
Discuss the history and interpret the current role and future trends (e.g. globalization, social responsibility) of business within society and the global economy		A	A	A	A			
Compare and contrast various business designs and models (e.g. networked, supply chains, open innovation, collaborative ecosystems) and formulate appropriate models for various cases.		A						
Compare and contrast various kinds of organizations by industry sector, ownership, governance and size – their business models, key performance factors, dominant structures and processes	A							
9. Team Management								
Evaluate and apply the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)		A	A	A	AD			
Persuade, influence, motivate and provide guidance (In a team setting)	A	A	A	A	A	A	A	A
Facilitate a range of group innovation, analysis and decision making techniques (In a team setting)	A	A	A	A	A	A	A	A
Engender and sustain trust of team members (In a team setting)	A	A	A	A	A	A	A	A
Effectively use technologies to facilitate and support group activities and processes (In a team setting)	A	A	A	A	A	A	A	A
Exhibit an understanding of the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)								
10. Communications								
Apply a mastery of ethical reasoning, client relationship management, business courtesies and self-presentation in all aspects of the program								
Communicate clearly, efficiently and effectively in both oral and written methods in a business context	A	A	A	A	A	A	A	A
Construct a strategy for business communications leveraging social media tools, practices and networks		DA	DA		DA			DA
Formulate ideas effectively in public presentation settings, including graphics, layout and writing components	A	A	A	A	A	A	A	A
11. Critical, Innovative Thinking and Ethics								
Evaluate a new technology, criticize its strengths and weaknesses, appraise its usefulness to solve business problems and clearly, effectively and efficiently communicate the results		A	A	A	A	A	A	DA
Interpret the overall organizational learning and innovation process / life-cycle, and evaluate its role in organizational success				DA	DA	DA		A
12. Integrative								
Analyse a business problem – collect relevant information, describe and compare options and risks, and make recommendations. Appropriately use of relevant techniques such as systems thinking, qualitative, and quantitative analysis	A	A	A	A	A	DA	DA	
Design and communicate a moderately complex technology-enabled solution to a business problem	A	A	A	A			A	DA
Effectively plan, manage and lead a business technology project	A	A	A	A			A	A
Apply and synthesize programming knowledge with an understanding of business processes and practice.	A	A	A	A			A	A
Manage software and creative web and media application teams	A	A	A	A				DA

Curriculum Mapping - Business Informatics	BUSI3601U	INFR2810U	BUSI3580U	INFR2830U
Original Course Number / **Original Course Name**	Operations Analysis and Optimization	Computer Architecture	Network Systems	Operating Systems
I= Introduction of topic; **D= Development of Topic;** **A = Application of Topic**				
Year				
1. Business Processes				
Compare and contrast the role, processes and structure of support functions of a business (e.g. general management, marketing, finance, R&D, IT, human resources)				
Discriminate among the role, processes and structures of operational functions of a business (e.g. sales, manufacturing, distribution, customer support	A			
Apply appropriate knowledge areas from the International Institute of Business Analysis (IIBA) Business Analysis Body of Knowledge (BABOK) to manage specific projects				
Analyze and evaluate a business process, develop the "to-be" design, and then to create the implementation plan and the business change management plan to implement this design				
2. Project and Change Management				
Explain the financial, operational, and reputational risk management. Articulate the implications for business decisions of cyclical and even-driven external risks (e.g. credit crunch, pandemics, global warming, peak oil)				
Create and justify a risk management plan to mitigate risks inherent in business in the implementation of information and communications technologies (e.g. systems development, data security and privacy, business continuity, outsourcing, off-shoring and infrastructure)				
Compare and contrast the choices and activities in procurement and management of purchased IT products and services				
Apply the Project Management Institute's Project Management Body of Knowledge (PMBOK)'s approach to academic and industry based projects				
Appraise the best practices for organizational change management				
Create an appropriate IT and lifecycle management plan (networks, desktop and data centre hardware, operating systems, databases) for a given organization or project.		I	I	
Evaluate IT investment decisions(e.g. make technology choices that will ease the integration of unpredictable future technologies)			I	
3. Strategy and Economics of Information				
Optimize the contributions of IT to the competitive strategies, innovations, decision-making and operations of various sizes and types of organizations, industry sectors, processes and functions				
Describe the impact of IT for individuals, groups, and communities, including culture, social and environmental issues				
Explain the business values, economics and governance of IT and the IT function within organizations, including IT's role, structure, challenges and career paths				
Evaluate the choices and activities in procurement and management of purchased IT products and services based on the structure, offerings, and dynamics of the Canadian and international IT industries. This includes the economics of ICTs and specific subsectors (e.g., ERP, open source, outsourcing, web, mobility)			I	
4. Information Technology				
Evaluate Data Standards and utilize these standards in the design of systems				
Explain, and evaluate Information Quality and the effect on decisions				
Describe and explain the theoretical and practical elements of legal requirement and ethical practices in the collection and storage of information				
5. Strategic Use of Business Intelligence & Data Analytics				
Appraise the discipline of knowledge discovery and data mining and its differences to transaction/operational systems				
Design date warehouse based data stores.				
Experiment with examples of business intelligence and data analysis including the use of various qualitative and quantitative methods of analysis to achieve a strategic goal	DA			
Compose appropriate user interface mechanisms with information and knowledge created by business intelligence and data analysis solutions				
Examine introductory concepts relating to ethics and privacy and the challenges these place on knowledge discovery and data mining				
6. Systems Design				
Analyze a business need, develop an RFx, evaluate the responses, and structure a contract with the successful vendor. Evaluate the effectiveness, appropriateness and usability of an implemented information system				
Explain, create, and evaluate algorithms, data structures, and networked communication protocols to develop modern computer software		D	D	
Explain the current and future issues in IT operations (e.g. delivery of service levels, change control, green IT)				D
Set-up and analyze hardware capabilities, runtime structures, and software interoperability		D	D	
Justify choice of programming language, hardware architecture, and functional or object-oriented software design		D	D	DA

Curriculum Mapping - Business Informatics	BUSI3601U	INFR2810U	BUSI3580U	INFR2830U
Original Course Number / **Original Course Name**	Operations Analysis and Optimization	Computer Architecture	Network Systems	Operating Systems
I= Introduction of topic; **D= Development of Topic;** **A = Application of Topic**				
Year				
7. Technology and Security				
Describe and explain the theoretical and practical elements of IT security and security management, including practices, policies and procedures, in the context of the changing needs of IT for organizations.			A	
Describe and explain aspects of IT security and security management in the context of the wider world, addressing legislative and societal requirements				
Explain the technical concepts of IT Security, including cryptography, malicious logic, identity and auditing			A	DA
Construct, explain, and evaluate security policies and procedures				
Develop and execute technology-focused and user-centred performance and usability evaluations				DA
8. General Business				
Discuss the history and interpret the current role and future trends (e.g. globalization, social responsibility) of business within society and the global economy				
Compare and contrast various business designs and models (e.g. networked, supply chains, open innovation, collaborative ecosystems) and formulate appropriate models for various cases.			I	
Compare and contrast various kinds of organizations by industry sector, ownership, governance and size – their business models, key performance factors, dominant structures and processes				
9. Team Management				
Evaluate and apply the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)				
Persuade, influence, motivate and provide guidance (In a team setting)	A	A	A	A
Facilitate a range of group innovation, analysis and decision making techniques (In a team setting)	A	A	A	A
Engender and sustain trust of team members (In a team setting)	A	A	A	A
Effectively use technologies to facilitate and support group activities and processes (In a team setting)	A	A	A	A
Exhibit an understanding of the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)				
10. Communications				
Apply a mastery of ethical reasoning, client relationship management, business courtesies and self-presentation in all aspects of the program				
Communicate clearly, efficiently and effectively in both oral and written methods in a business context	A	A	A	A
Construct a strategy for business communications leveraging social media tools, practices and networks				
Formulate ideas effectively in public presentation settings, including graphics, layout and writing components	A	A	A	A
11. Critical, Innovative Thinking and Ethics				
Evaluate a new technology, criticize its strengths and weaknesses, appraise its usefulness to solve business problems and clearly, effectively and efficiently communicate the results				
Interpret the overall organizational learning and innovation process / life-cycle, and evaluate its role in organizational success				
12. Integrative				
Analyse a business problem – collect relevant information, describe and compare options and risks, and make recommendations. Appropriately use of relevant techniques such as systems thinking, qualitative, and quantitative analysis	DA			
Design and communicate a moderately complex technology-enabled solution to a business problem	DA			DA
Effectively plan, manage and lead a business technology project		A	A	A
Apply and synthesize programming knowledge with an understanding of business processes and practice.				A
Manage software and creative web and media application teams				

Curriculum Mapping - Business Informatics

	INFR1041U Mathematics II			BUSI1010U Critical Thinking & Ethics			INFR1100U Intro to Programming			BUSI2311U Organizational Behaviour			BUSI2603U Operations Management		
I= Introduction of topic; D= Development of Topic; A = Application of Topic	Inductions and proofs	Integration	Derivatives	Logic Structures	Critical Thinking	Business Ethics	Variables and basics data structures	Arrays and linked lists	Loops and basic sorts	Group Dynamics and Decision making	Leadership and motivation	Culture	Scheduling and forecasting	Quality Control	Inventroy Control
Year	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
1. Business Processes															
Compare and contrast the role, processes and structure of support functions of a business (e.g. general management, marketing, finance, R&D, IT, human resources)											I		D	D	D
Discriminate among the role, processes and structures of operational functions of a business (e.g. sales, manufacturing, distribution, customer support													D	D	D
Apply appropriate knowledge areas from the International Institute of Business Analysis (IIBA) Business Analysis Body of Knowledge (BABOK) to manage specific projects											I	I			
Analyze and evaluate a business process, develop the "to-be" design, and then to create the implementation plan and the business change management plan to implement this design				I	I								D	D	
2. Project and Change Management												f			
Explain the financial, operational, and reputational risk management. Articulate the implications for business decisions of cyclical and even-driven external risks (e.g. credit crunch, pandemics, global warming, peak oil)											I		D	D	
Create and justify a risk management plan to mitigate risks inherent in business in the implementation of information and communications technologies (e.g. systems development, data security and privacy, business continuity, outsourcing, off-shoring and infrastructure)															
Compare and contrast the choices and activities in procurement and management of purchased IT products and services														I	I
Apply the Project Management Institute's Project Management Body of Knowledge (PMBOK)'s approach to academic and industry based projects															I
Appraise the best practices for organizational change management										I	I	I			
Create an appropriate IT and lifecycle management plan (networks, desktop and data centre hardware, operating systems, databases) for a given organization or project.															
Evaluate IT investment decisions(e.g. make technology choices that will ease the integration of unpredictable future technologies)					I										
3. Strategy and Economics of Information															
Optimize the contributions of IT to the competitive strategies, innovations, decision-making and operations of various sizes and types of organizations, industry sectors, processes and functions															
Describe the impact of IT for individuals, groups, and communities, including culture, social and environmental issues												ID	I	I	I
Explain the business values, economics and governance of IT and the IT function within organizations, including IT's role, structure, challenges and career paths															
Evaluate the choices and activities in procurement and management of purchased IT products and services based on the structure, offerings, and dynamics of the Canadian and international IT industries. This includes the economics of ICTs and specific subsectors (e.g., ERP, open source, outsourcing, web, mobility)															
4. Information Technology															
Evaluate Data Standards and utilize these standards in the design of systems															
Explain, and evaluate Information Quality and the effect on decisions															
Describe and explain the theoretical and practical elements of legal requirement and ethical practices in the collection and storage of information															
5. Strategic Use of Business Intelligence & Data Analytics															
Appraise the discipline of knowledge discovery and data mining and its differences to transaction/operational systems															
Design date warehouse based data stores.															
Experiment with examples of business intelligence and data analysis including the use of various qualitative and quantitative methods of analysis to achieve a strategic goal															
Compose appropriate user interface mechanisms with information and knowledge created by business intelligence and data analysis solutions															
Examine introductory concepts relating to ethics and privacy and the challenges these place on knowledge discovery and data mining						I									
6. Systems Design															
Analyze a business need, develop an RFx, evaluate the responses, and structure a contract with the successful vendor. Evaluate the effectiveness, appropriateness and usability of an implemented information system															
Explain, create, and evaluate algorithms, data structures, and networked communication protocols to develop modern computer software							ID	ID	ID						
Explain the current and future issues in IT operations (e.g. delivery of service levels, change control, green IT)															
Set-up and analyze hardware capabilities, runtime structures, and software interoperability															
Justify choice of programming language, hardware architecture, and functional or object-oriented software design															

Curriculum Mapping - Business Informatics

	INFR1041U Mathematics II			BUSI1010U Critical Thinking & Ethics			INFR1100U Intro to Programming			BUSI2311U Organizational Behaviour			BUSI2603U Operations Management		
I= Introduction of topic; D= Development of Topic; A = Application of Topic	Inductions and proofs	Integration	Derivates	Logic Structures	Critical Thinking	Business Ethics	Variables and basics data structures	Arrays and linked lists	Loops and basic sorts	Group Dynamics and Decision making	Leadership and motivation	Culture	Scheduling and forecasting	Quality Control	Inventroy Control
Year	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
7. Technology and Security															
Describe and explain the theoretical and practical elements of IT security and security management, including practices, policies and procedures, in the context of the changing needs of IT for organizations.															
Describe and explain aspects of IT security and security management in the context of the wider world, addressing legislative and societal requirements															
Explain the technical concepts of IT Security, including cryptography, malicious logic, identity and auditing															
Construct, explain, and evaluate security policies and procedures															
Develop and execute technology-focused and user-centred performance and usability evaluations															
8. General Business															
Discuss the history and interpret the current role and future trends (e.g. globalization, social responsibility) of business within society and the global economy											D	ID			I
Compare and contrast various business designs and models (e.g. networked, supply chains, open innovation, collaborative ecosystems) and formulate appropriate models for various cases.												I		I	I
Compare and contrast various kinds of organizations by industry sector, ownership, governance and size – their business models, key performance factors, dominant structures and processes											D	D			
9. Team Management															
Evaluate and apply the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)					I					D	D	D			
Persuade, influence, motivate and provide guidance (In a team setting)										D	D	D			
Facilitate a range of group innovation, analysis and decision making techniques (In a team setting)										D	D	D			
Engender and sustain trust of team members (In a team setting)										ID	D	D			
Effectively use technologies to facilitate and support group activities and processes (In a team setting)							ID			ID	D	D			
Exhibit an understanding of the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)										D	D	D			
10. Communications															
Apply a mastery of ethical reasoning, client relationship management, business courtesies and self-presentation in all aspects of the program					I	ID				D	D				
Communicate clearly, efficiently and effectively in both oral and written methods in a business context						D				A	A	A	A	A	A
Construct a strategy for business communications leveraging social media tools, practices and networks															
Formulate ideas effectively in public presentation settings, including graphics, layout and writing components						D				A	A	A	A	A	A
11. Critical, Innovative Thinking and Ethics															
Evaluate a new technology, criticize its strengths and weaknesses, appraise its usefulness to solve business problems and clearly, effectively and efficiently communicate the results				I											
Interpret the overall organizational learning and innovation process / life-cycle, and evaluate its role in organizational success				I						D				D	D
12. Integrative															
Analyse a business problem – collect relevant information, describe and compare options and risks, and make recommendations. Appropriately use of relevant techniques such as systems thinking, qualitative, and quantitative analysis	ID	ID	ID	D	D	D							D	D	D
Design and communicate a moderately complex technology-enabled solution to a business problem							I	I	I						
Effectively plan, manage and lead a business technology project					D	D				ID	ID	ID			
Apply and synthesize programming knowledge with an understanding of business processes and practice.							I	I	I						
Manage software and creative web and media application teams							D	D	D						

Curriculum Mapping - Business Informatics

	INFR2140U Object-Oriented Programming			BUSI2410U Managerial Finance			BUSI2550U Introduction to Project Management			INFR1550U Law and Ethics of IT			INFR2600U Introduction to IT Security			BUSI3550U Systems Analysis and Design			B... Infor...
I= Introduction of topic; D= Development of Topic; A = Application of Topic	Definitions and object classes	Algorithms and complexity	Polymorphisms	Project Valuation and Capital Budgeting	Financial Securities and Markets	Measuring Risk	Project Framework	Manging Human Capital	Project Management Tools	Basic Law	Ethics of IT	IT Law	Fundamentals	Cryptography and Access Control	Security Management	Requirements gathering (Use case)	System Design (DFDs)	System Testing Methods	Strategic use of IS
Year	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
1. Business Processes																			
Compare and contrast the role, processes and structure of support functions of a business (e.g. general management, marketing, finance, R&D, IT, human resources)				D		DA													A
Discriminate among the role, processes and structures of operational functions of a business (e.g. sales, manufacturing, distribution, customer support				D		DA													A
Apply appropriate knowledge areas from the International Institute of Business Analysis (IIBA) Business Analysis Body of Knowledge (BABOK) to manage specific projects							IDA	IDA	IDA										
Analyze and evaluate a business process, develop the "to-be" design, and then to create the implementation plan and the business change management plan to implement this design																			D
2. Project and Change Management																			
Explain the financial, operational, and reputational risk management. Articulate the implications for business decisions of cyclical and even-driven external risks (e.g. credit crunch, pandemics, global warming, peak oil)				ID	ID		D			I		I	D		ID				
Create and justify a risk management plan to mitigate risks inherent in business in the implementation of information and communications technologies (e.g. systems development, data security and privacy, business continuity, outsourcing, off-shoring and infrastructure)															ID			D	I
Compare and contrast the choices and activities in procurement and management of purchased IT products and services																			I
Apply the Project Management Institute's Project Management Body of Knowledge (PMBOK)'s approach to academic and industry based projects							ID	ID	ID						A	A			
Appraise the best practices for organizational change management								I	I							A		A	A
Create an appropriate IT and lifecycle management plan (networks, desktop and data centre hardware, operating systems, databases) for a given organization or project.																			
Evaluate IT investment decisions(e.g. make technology choices that will ease the integration of unpredictable future technologies)				I	I	I	I		I										
3. Strategy and Economics of Information																			
Optimize the contributions of IT to the competitive strategies, innovations, decision-making and operations of various sizes and types of organizations, industry sectors, processes and functions																			ID
Describe the impact of IT for individuals, groups, and communities, including culture, social and environmental issues				I									I		I	DA			ID
Explain the business values, economics and governance of IT and the IT function within organizations, including IT's role, structure, challenges and career paths																			I
Evaluate the choices and activities in procurement and management of purchased IT products and services based on the structure, offerings, and dynamics of the Canadian and international IT industries. This includes the economics of ICTs and specific subsectors (e.g., ERP, open source, outsourcing, web, mobility)																			
4. Information Technology																			
Evaluate Data Standards and utilize these standards in the design of systems														I	I	D	D	D	A
Explain, and evaluate Information Quality and the effect on decisions																D	D	D	A
Describe and explain the theoretical and practical elements of legal requirement and ethical practices in the collection and storage of information													I	I	I				A
5. Strategic Use of Business Intelligence & Data Analytics																			
Appraise the discipline of knowledge discovery and data mining and its differences to transaction/operational systems																			
Design date warehouse based data stores.																			
Experiment with examples of business intelligence and data analysis including the use of various qualitative and quantitative methods of analysis to achieve a strategic goal																			
Compose appropriate user interface mechanisms with information and knowledge created by business intelligence and data analysis solutions																ID	ID		
Examine introductory concepts relating to ethics and privacy and the challenges these place on knowledge discovery and data mining											I			ID	ID				
6. Systems Design																			
Analyze a business need, develop an RFx, evaluate the responses, and structure a contract with the successful vendor. Evaluate the effectiveness, appropriateness and usability of an implemented information system									ID	D			D			ID	D		I
Explain, create, and evaluate algorithms, data structures, and networked communication protocols to develop modern computer software	D	D								D				D			ID	D	
Explain the current and future issues in IT operations (e.g. delivery of service levels, change control, green IT)																			
Set-up and analyze hardware capabilities, runtime structures, and software interoperability	I	I	I							D							D	D	
Justify choice of programming language, hardware architecture, and functional or object-oriented software design	I														D		D	DA	

Curriculum Mapping - Business Informatics

Original Course Number →	INFR2140U Object-Oriented Programming			BUSI2410U Managerial Finance			BUSI2550U Introduction to Project Management			INFR1550U Law and Ethics of IT			INFR2600U Introduction to IT Security			BUSI3550U Systems Analysis and Design			Infor...
I= Introduction of topic; D= Development of Topic; A = Application of Topic	Definitions and object classes	Algorithms and complexity	Polymorphisms	Project Valuation and Capital Budgeting	Financial Securities and Markets	Measuring Risk	Project Framework	Manging Human Capital	Project Management Tools	Basic Law	Ethics of IT	IT Law	Fundamentals	Cryptography and Access Control	Security Management	Requirements gathering (Use case)	System Design (DFDs)	System Testing Methods	Strategic use of IS
Year	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
7. Technology and Security																			
Describe and explain the theoretical and practical elements of IT security and security management, including practices, policies and procedures, in the context of the changing needs of IT for organizations.											ID	ID	ID			D	D		
Describe and explain aspects of IT security and security management in the context of the wider world, addressing legislative and societal requirements											ID	ID	ID	ID	ID				
Explain the technical concepts of IT Security, including cryptography, malicious logic, identity and auditing														ID	ID		D	D	
Construct, explain, and evaluate security policies and procedures											I	ID	ID						
Develop and execute technology-focused and user-centred performance and usability evaluations														ID	ID	ID	D	D	D
8. General Business																			
Discuss the history and interpret the current role and future trends (e.g. globalization, social responsibility) of business within society and the global economy				ID	ID													I	ID
Compare and contrast various business designs and models (e.g. networked, supply chains, open innovation, collaborative ecosystems) and formulate appropriate models for various cases.																			
Compare and contrast various kinds of organizations by industry sector, ownership, governance and size – their business models, key performance factors, dominant structures and processes						D		D											D
9. Team Management																			
Evaluate and apply the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)							D	D	D										
Persuade, influence, motivate and provide guidance (In a team setting)							D	D	D	A	A	A	A	A	A	A	A	A	A
Facilitate a range of group innovation, analysis and decision making techniques (In a team setting)							D	D	D	A	A	A	A	A	A	A	A	A	A
Engender and sustain trust of team members (In a team setting)							D	D	D	A	A	A	A	A	A	A	A	A	A
Effectively use technologies to facilitate and support group activities and processes (In a team setting)	ID	ID					D	D	D	A	A	A	A	A	A	A	A	A	A
Exhibit an understanding of the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)							D	D	D										
10. Communications																			
Apply a mastery of ethical reasoning, client relationship management, business courtesies and self-presentation in all aspects of the program							D	D	D	D	D	D		A	A	A	A	A	A
Communicate clearly, efficiently and effectively in both oral and written methods in a business context				A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Construct a strategy for business communications leveraging social media tools, practices and networks																			
Formulate ideas effectively in public presentation settings, including graphics, layout and writing components				A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
11. Critical, Innovative Thinking and Ethics																			
Evaluate a new technology, criticize its strengths and weaknesses, appraise its usefulness to solve business problems and clearly, effectively and efficiently communicate the results			I								D	D	ID	D	ID	D	D	D	D
Interpret the overall organizational learning and innovation process / life-cycle, and evaluate its role in organizational success							D												D
12. Integrative																			
Analyse a business problem – collect relevant information, describe and compare options and risks, and make recommendations. Appropriately use of relevant techniques such as systems thinking, qualitative, and quantitative analysis				D	D	D	D								D	D	D	D	D
Design and communicate a moderately complex technology-enabled solution to a business problem		I														D	D	D	DA
Effectively plan, manage and lead a business technology project				D	D		ID	ID	ID						D	D	D	D	
Apply and synthesize programming knowledge with an understanding of business processes and practice.	D	D	D											D	D	D	D	D	
Manage software and creative web and media application teams	D	D	D													D	D	D	

Curriculum Mapping - Business Informatics

I= Introduction of topic; D= Development of Topic; A = Application of Topic	Types of IS	eBusiness	Advanced Datastructures	Algorithms for Problem Solving	Complexity Analysis	Change Management Complexity and Practices	Planning for Change	Overcoming obstacles and recovery	Database Design (ERD)	Introduction to Business Intelligence	Introduction to SQL	Business Process Modelling	Supplier Management	IT Governance	Risk Mgmt Frameworks	Risk Analysis	Risk Communications	Computer-Supported Collaborative Work	Interaction Design and Designing for New Media
Original Course Number	USI3040U		INFR2820U			BUSI 3330U			BUSI3504U			BUSI 4591U			BUSI 3670U			INFR4352	
Original Course Name	ation Systems		Algorithms and Data Structures			The Management of Change			Database Systems & BI			Topics in Informatics			Risk Mgmt Frameworks			HCI & Desi	
Year	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4
1. Business Processes																			
Compare and contrast the role, processes and structure of support functions of a business (e.g. general management, marketing, finance, R&D, IT, human resources)						A	A	A				A		D					
Discriminate among the role, processes and structures of operational functions of a business (e.g. sales, manufacturing, distribution, customer support						A	A	A				A							
Apply appropriate knowledge areas from the International Institute of Business Analysis (IIBA) Business Analysis Body of Knowledge (BABOK) to manage specific projects		D				A	A	A											
Analyze and evaluate a business process, develop the "to-be" design, and then to create the implementation plan and the business change management plan to implement this design		D					A	A				IDA	DA						
2. Project and Change Management																			
Explain the financial, operational, and reputational risk management. Articulate the implications for business decisions of cyclical and even-driven external risks (e.g. credit crunch, pandemics, global warming, peak oil)							A	A					ID		ID	ID	ID		
Create and justify a risk management plan to mitigate risks inherent in business in the implementation of information and communications technologies (e.g. systems development, data security and privacy, business continuity, outsourcing, off-shoring and infrastructure)	I	I						A					ID		ID	ID	ID		
Compare and contrast the choices and activities in procurement and management of purchased IT products and services		I												ID					
Apply the Project Management Institute's Project Management Body of Knowledge (PMBOK)'s approach to academic and industry based projects																			
Appraise the best practices for organizational change management						I	ID	DA						ID					
Create an appropriate IT and lifecycle management plan (networks, desktop and data centre hardware, operating systems, databases) for a given organization or project.		I					DA	DA		I				ID					
Evaluate IT investment decisions(e.g. make technology choices that will ease the integration of unpredictable future technologies)		ID					A	A		I		D		I	D	D	D		
3. Strategy and Economics of Information																			
Optimize the contributions of IT to the competitive strategies, innovations, decision-making and operations of various sizes and types of organizations, industry sectors, processes and functions	I	D						A		ID				D					
Describe the impact of IT for individuals, groups, and communities, including culture, social and environmental issues							A	A										A	
Explain the business values, economics and governance of IT and the IT function within organizations, including IT's role, structure, challenges and career paths	I	I					A	A						D					
Evaluate the choices and activities in procurement and management of purchased IT products and services based on the structure, offerings, and dynamics of the Canadian and international IT industries. This includes the economics of ICTs and specific subsectors (e.g., ERP, open source, outsourcing, web, mobility)		I								I				D	D	D	D	I	
4. Information Technology																			
Evaluate Data Standards and utilize these standards in the design of systems	A	A				A	A	A	DA	DA		A		A					
Explain, and evaluate Information Quality and the effect on decisions	A	A				DA	A		D	DA		A		A					
Describe and explain the theoretical and practical elements of legal requirement and ethical practices in the collection and storage of information	A	A				D	DA	D	DA	DA				A					
5. Strategic Use of Business Intelligence & Data Analytics																			
Appraise the discipline of knowledge discovery and data mining and its differences to transaction/operational systems		I							I										
Design date warehouse based data stores.		ID																	
Experiment with examples of business intelligence and data analysis including the use of various qualitative and quantitative methods of analysis to achieve a strategic goal		I								ID		A							
Compose appropriate user interface mechanisms with information and knowledge created by business intelligence and data analysis solutions		I							I	I								D	D
Examine introductory concepts relating to ethics and privacy and the challenges these place on knowledge discovery and data mining									I	I								A	
6. Systems Design																			
Analyze a business need, develop an RFx, evaluate the responses, and structure a contract with the successful vendor. Evaluate the effectiveness, appropriateness and usability of an implemented information system	ID	ID				A	A	A	ID										
Explain, create, and evaluate algorithms, data structures, and networked communication protocols to develop modern computer software											D							A	
Explain the current and future issues in IT operations (e.g. delivery of service levels, change control, green IT)	ID	ID				ID	ID	D	D					A	A	A	A		
Set-up and analyze hardware capabilities, runtime structures, and software interoperability						A	A		D	D								A	A
Justify choice of programming language, hardware architecture, and functional or object-oriented software design			ID	ID		A	A											A	

Curriculum Mapping - Business Informatics

Original Course Number	USI3040U		INFR2820U			BUSI 3330U			BUSI3504U			BUSI 4591U			BUSI 3670U			INFR4352	
Original Course Name	ation Systems		Algorithms and Data Structures			The Management of Change			Database Systems & BI			Topics in Informatics			Risk Mgmt Frameworks			HCI & Desi	
I= Introduction of topic; D= Development of Topic; A = Application of Topic	Types of IS	eBusiness	Advanced Datastructures	Algorithms for Problem Solving	Complexity Analysis	Change Management Complexity and Practices	Planning for Change	Overcoming obstacles and recovery	Database Design (ERD)	Introduction to Business Intelligence	Introduction to SQL	Business Process Modelling	Supplier Management	IT Governance	Risk Mgmt Frameworks	Risk Analysis	Risk Communications	Computer-Supported Collaborative Work	Interaction Design and Designing for New Media
Year	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4
7. Technology and Security																			
Describe and explain the theoretical and practical elements of IT security and security management, including practices, policies and procedures, in the context of the changing needs of IT for organizations.		A											A	A	A	A			
Describe and explain aspects of IT security and security management in the context of the wider world, addressing legislative and societal requirements			ID	ID	ID									A	A	A	A		
Explain the technical concepts of IT Security, including cryptography, malicious logic, identity and auditing																			
Construct, explain, and evaluate security policies and procedures			DA	DA	DA	A	A							A	A	A	A		
Develop and execute technology-focused and user-centred performance and usability evaluations				ID		A	A							A			A	DA	DA
8. General Business																			
Discuss the history and interpret the current role and future trends (e.g. globalization, social responsibility) of business within society and the global economy														D				A	
Compare and contrast various business designs and models (e.g. networked, supply chains, open innovation, collaborative ecosystems) and formulate appropriate models for various cases.						A	A							I					
Compare and contrast various kinds of organizations by industry sector, ownership, governance and size – their business models, key performance factors, dominant structures and processes						A								D					
9. Team Management																			
Evaluate and apply the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)						A	DA						A			A	A	DA	
Persuade, influence, motivate and provide guidance (In a team setting)	A	A				A	A	A	A	A	A	A	A	A	A	A	A	A	A
Facilitate a range of group innovation, analysis and decision making techniques (In a team setting)	A	A				A	A	A	A	A	A	A	A	A	A	A	A	A	A
Engender and sustain trust of team members (In a team setting)	A	A				A	A	A	A	A	A	A	A	A	A	A	A	A	A
Effectively use technologies to facilitate and support group activities and processes (In a team setting)	A	A				A	A	A	A	A	A	A	A	A	A	A	A	A	A
Exhibit an understanding of the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)									DA	DA						A	A	A	
10. Communications																			
Apply a mastery of ethical reasoning, client relationship management, business courtesies and self-presentation in all aspects of the program	A	A	D	D	D				A				A	A		A		A	A
Communicate clearly, efficiently and effectively in both oral and written methods in a business context	A	A	D	D	D	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Construct a strategy for business communications leveraging social media tools, practices and networks			ID	D	D	A	A					A				A	A	DA	A
Formulate ideas effectively in public presentation settings, including graphics, layout and writing components	A	A				A	A	A	A	A	A	A	A	A	A	A	A	A	A
11. Critical, Innovative Thinking and Ethics																			
Evaluate a new technology, criticize its strengths and weaknesses, appraise its usefulness to solve business problems and clearly, effectively and efficiently communicate the results	D	D		ID	ID	A	A		D	A	D	A	A	A	A	A	A	A	A
Interpret the overall organizational learning and innovation process / life-cycle, and evaluate its role in organizational success						DA	DA		A					DA	A	A		A	
12. Integrative																			
Analyse a business problem – collect relevant information, describe and compare options and risks, and make recommendations. Appropriately use of relevant techniques such as systems thinking, qualitative, and quantitative analysis		D	D	D	D	D		DA			D	A	A		DA	DA	A	A	A
Design and communicate a moderately complex technology-enabled solution to a business problem	A	A	I	I	I	D	A			A		A					A	A	A
Effectively plan, manage and lead a business technology project		DA				DA	DA		DA	A	A	A						A	A
Apply and synthesize programming knowledge with an understanding of business processes and practice.			I	I	I	DA	DA		D	D	D							A	
Manage software and creative web and media application teams			D	D	D	A			D	DA	DA							A	A

Curriculum Mapping - Business Informatics

	User Interface Design and Testing	BUSI 4504U — Knowledge Disc & DM			INFR 4680U — IT Security Policies and Procedures			BUSI3700U — Strategic Management for Professionals			BUSI4995U — Capstone
Original Course Number / Original Course Name → I= Introduction of topic; D= Development of Topic; A = Application of Topic	User Interface Design and Testing	Acquisition and storage	Data Mining Techniques	Discovering knowledge	Policy Development	Policy Management and Implementation	IT Security	Strategic Frameworks	Comprehensive Strategy	Economics of Innovation and Technology	Capstone 3 CREDITS
Year	4	4	4	4	4	4	4	4	4	4	4
1. Business Processes											
Compare and contrast the role, processes and structure of support functions of a business (e.g. general management, marketing, finance, R&D, IT, human resources)							A	A	A		A
Discriminate among the role, processes and structures of operational functions of a business (e.g. sales, manufacturing, distribution, customer support							A	A	A		A
Apply appropriate knowledge areas from the International Institute of Business Analysis (IIBA) Business Analysis Body of Knowledge (BABOK) to manage specific projects											A
Analyze and evaluate a business process, develop the "to-be" design, and then to create the implementation plan and the business change management plan to implement this design											A
2. Project and Change Management											
Explain the financial, operational, and reputational risk management. Articulate the implications for business decisions of cyclical and even-driven external risks (e.g. credit crunch, pandemics, global warming, peak oil)											A
Create and justify a risk management plan to mitigate risks inherent in business in the implementation of information and communications technologies (e.g. systems development, data security and privacy, business continuity, outsourcing, off-shoring and infrastructure)											A
Compare and contrast the choices and activities in procurement and management of purchased IT products and services											A
Apply the Project Management Institute's Project Management Body of Knowledge (PMBOK)'s approach to academic and industry based projects											A
Appraise the best practices for organizational change management											A
Create an appropriate IT and lifecycle management plan (networks, desktop and data centre hardware, operating systems, databases) for a given organization or project.		DA	DA	DA				I			A
Evaluate IT investment decisions (e.g. make technology choices that will ease the integration of unpredictable future technologies)		A	A	A							A
3. Strategy and Economics of Information											
Optimize the contributions of IT to the competitive strategies, innovations, decision-making and operations of various sizes and types of organizations, industry sectors, processes and functions											A
Describe the impact of IT for individuals, groups, and communities, including culture, social and environmental issues											A
Explain the business values, economics and governance of IT and the IT function within organizations, including IT's role, structure, challenges and career paths											A
Evaluate the choices and activities in procurement and management of purchased IT products and services based on the structure, offerings, and dynamics of the Canadian and international IT industries. This includes the economics of ICTs and specific subsectors (e.g., ERP, open source, outsourcing, web, mobility)											A
4. Information Technology											
Evaluate Data Standards and utilize these standards in the design of systems		A	A	A	A	A	A				
Explain, and evaluate Information Quality and the effect on decisions		A	A	A	A	A	A				
Describe and explain the theoretical and practical elements of legal requirement and ethical practices in the collection and storage of information		A	A	A	A	A	A				
5. Strategic Use of Business Intelligence & Data Analytics											
Appraise the discipline of knowledge discovery and data mining and its differences to transaction/operational systems		DA	DA	DA							A
Design date warehouse based data stores.		DA	A	A							A
Experiment with examples of business intelligence and data analysis including the use of various qualitative and quantitative methods of analysis to achieve a strategic goal	A	DA	DA	DA							A
Compose appropriate user interface mechanisms with information and knowledge created by business intelligence and data analysis solutions	DA	DA	DA	DA							A
Examine introductory concepts relating to ethics and privacy and the challenges these place on knowledge discovery and data mining		I	D	DA			D				A
6. Systems Design											
Analyze a business need, develop an RFx, evaluate the responses, and structure a contract with the successful vendor. Evaluate the effectiveness, appropriateness and usability of an implemented information system											A
Explain, create, and evaluate algorithms, data structures, and networked communication protocols to develop modern computer software	A		A	A							A
Explain the current and future issues in IT operations (e.g. delivery of service levels, change control, green IT)											A
Set-up and analyze hardware capabilities, runtime structures, and software interoperability	A										A
Justify choice of programming language, hardware architecture, and functional or object-oriented software design	A						A				A

Curriculum Mapping - Business Informatics

I= Introduction of topic; D= Development of Topic; A = Application of Topic	User Interface Design and Testing	Acquisition and storage	Data Mining Techniques	Discovering knowledge	Policy Development	Policy Management and Implementation	IT Security	Strategic Frameworks	Comprehensive Strategy	Economics of Innovation and Technology	Capstone 3 CREDITS
Original Course Number		BUSI 4504U			INFR 4680U			BUSI3700U			BUSI4995U
Original Course Name	gn	Knowledge Disc & DM			IT Security Policies and Procedures			Strategic Management for Professionals			Capstone
Year	4	4	4	4	4	4	4	4	4	4	4
7. Technology and Security											
Describe and explain the theoretical and practical elements of IT security and security management, including practices, policies and procedures, in the context of the changing needs of IT for organizations.							A				A
Describe and explain aspects of IT security and security management in the context of the wider world, addressing legislative and societal requirements							A				A
Explain the technical concepts of IT Security, including cryptography, malicious logic, identity and auditing											A
Construct, explain, and evaluate security policies and procedures							A				A
Develop and execute technology-focused and user-centred performance and usability evaluations	DA						A				A
8. General Business											
Discuss the history and interpret the current role and future trends (e.g. globalization, social responsibility) of business within society and the global economy								ID	ID	D	A
Compare and contrast various business designs and models (e.g. networked, supply chains, open innovation, collaborative ecosystems) and formulate appropriate models for various cases.								ID	ID	D	A
Compare and contrast various kinds of organizations by industry sector, ownership, governance and size – their business models, key performance factors, dominant structures and processes								ID	ID	D	A
9. Team Management											
Evaluate and apply the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)								A	A	A	A
Persuade, influence, motivate and provide guidance (In a team setting)	A	A	A	A	A	A	A	A	A	A	A
Facilitate a range of group innovation, analysis and decision making techniques (In a team setting)	A	A	A	A	A	A	A	A	A	A	A
Engender and sustain trust of team members (In a team setting)	A	A	A	A	A	A	A	A	A	A	A
Effectively use technologies to facilitate and support group activities and processes (In a team setting)	A	A	A	A	A	A	A	A	A	A	A
Exhibit an understanding of the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)		A			A	A	A	A	A	A	A
10. Communications											
Apply a mastery of ethical reasoning, client relationship management, business courtesies and self-presentation in all aspects of the program	A	A		A							A
Communicate clearly, efficiently and effectively in both oral and written methods in a business context	A	A	A	A	A	A	A	A	A	A	A
Construct a strategy for business communications leveraging social media tools, practices and networks	DA	A		A							
Formulate ideas effectively in public presentation settings, including graphics, layout and writing components	A	A	A	A	A	A	A	A	A	A	A
11. Critical, Innovative Thinking and Ethics											
Evaluate a new technology, criticize its strengths and weaknesses, appraise its usefulness to solve business problems and clearly, effectively and efficiently communicate the results	A	A	A	A			DA	A	A	A	A
Interpret the overall organizational learning and innovation process / life-cycle, and evaluate its role in organizational success	A	A			A	A	A	DA	DA	DA	A
12. Integrative						A					
Analyse a business problem – collect relevant information, describe and compare options and risks, and make recommendations. Appropriately use of relevant techniques such as systems thinking, qualitative, and quantitative analysis	A	A	A	A	A	A	A	A	A	A	A
Design and communicate a moderately complex technology-enabled solution to a business problem	A	A	A	A	A	A	A	A	A	A	A
Effectively plan, manage and lead a business technology project	A	A	A	A	A	A	A				A
Apply and synthesize programming knowledge with an understanding of business processes and practice.	A	A	A	A	A	A	A				A
Manage software and creative web and media application teams	A	A	A	A							A

Curriculum Mapping - Business Informatics	Informatics Electives (3 Credits Each)							Informatics E Credits Each)
Original Course Number	BUSI 4610U	BUSI 3502U	BUSI 3530U	BUSI 4510U	BUSI 3650U	BUSI 2610U	BUSI 3450U	INFR 3730U
Original Course Name	Simulation Modeling	e-Commerce	Website Design & Mgmt	Knowledge Mgmt & Ent Sys	Innovation Management	Quality Improvement Frameworks	Business Forecasting	Multimedia Systems
I= Introduction of topic; D= Development of Topic; A = Application of Topic								
Year								
1. Business Processes								
Compare and contrast the role, processes and structure of support functions of a business (e.g. general management, marketing, finance, R&D, IT, human resources)	A	DA		A	A	A		
Discriminate among the role, processes and structures of operational functions of a business (e.g. sales, manufacturing, distribution, customer support	A			A	A	A		
Apply appropriate knowledge areas from the International Institute of Business Analysis (IIBA) Business Analysis Body of Knowledge (BABOK) to manage specific projects					A	A		
Analyze and evaluate a business process, develop the "to-be" design, and then to create the implementation plan and the business change management plan to implement this design	DA	A			DA	A		
2. Project and Change Management								
Explain the financial, operational, and reputational risk management. Articulate the implications for business decisions of cyclical and even-driven external risks (e.g. credit crunch, pandemics, global warming, peak oil)								
Create and justify a risk management plan to mitigate risks inherent in business in the implementation of information and communications technologies (e.g. systems development, data security and privacy, business continuity, outsourcing, off-shoring and infrastructure)		D	D	D	D			
Compare and contrast the choices and activities in procurement and management of purchased IT products and services								
Apply the Project Management Institute's Project Management Body of Knowledge (PMBOK)'s approach to academic and industry based projects								
Appraise the best practices for organizational change management		A		D	D	A		
Create an appropriate IT and lifecycle management plan (networks, desktop and data centre hardware, operating systems, databases) for a given organization or project.		A	D	A	D			
Evaluate IT investment decisions(e.g. make technology choices that will ease the integration of unpredictable future technologies)		A	A	A				
3. Strategy and Economics of Information								
Optimize the contributions of IT to the competitive strategies, innovations, decision-making and operations of various sizes and types of organizations, industry sectors, processes and functions		A			DA			D
Describe the impact of IT for individuals, groups, and communities, including culture, social and environmental issues		A	A	A	A			
Explain the business values, economics and governance of IT and the IT function within organizations, including IT's role, structure, challenges and career paths								
Evaluate the choices and activities in procurement and management of purchased IT products and services based on the structure, offerings, and dynamics of the Canadian and international IT industries. This includes the economics of ICTs and specific subsectors (e.g., ERP, open source, outsourcing, web, mobility)		A	A	A	A			
4. Information Technology								
Evaluate Data Standards and utilize these standards in the design of systems								
Explain, and evaluate Information Quality and the effect on decisions								
Describe and explain the theoretical and practical elements of legal requirement and ethical practices in the collection and storage of information								
5. Strategic Use of Business Intelligence & Data Analytics								
Appraise the discipline of knowledge discovery and data mining and its differences to transaction/operational systems								
Design date warehouse based data stores.								
Experiment with examples of business intelligence and data analysis including the use of various qualitative and quantitative methods of analysis to achieve a strategic goal						D	D	
Compose appropriate user interface mechanisms with information and knowledge created by business intelligence and data analysis solutions	A	A	A	DA	A			DA
Examine introductory concepts relating to ethics and privacy and the challenges these place on knowledge discovery and data mining								
6. Systems Design								
Analyze a business need, develop an RFx, evaluate the responses, and structure a contract with the successful vendor. Evaluate the effectiveness, appropriateness and usability of an implemented information system		A	A	A				
Explain, create, and evaluate algorithms, data structures, and networked communication protocols to develop modern computer software		A	A	A				
Explain the current and future issues in IT operations (e.g. delivery of service levels, change control, green IT)		A	A	A				
Set-up and analyze hardware capabilities, runtime structures, and software interoperability		A	A	A				
Justify choice of programming language, hardware architecture, and functional or object-oriented software design		A	A					A

Curriculum Mapping - Business Informatics	Informatics Electives (3 Credits Each)							Informatics E Credits Each)
Original Course Number	BUSI 4610U	BUSI 3502U	BUSI 3530U	BUSI 4510U	BUSI 3650U	BUSI 2610U	BUSI 3450U	INFR 3730U
Original Course Name	Simulation Modeling	e-Commerce	Website Design & Mgmt	Knowledge Mgmt & Ent Sys	Innovation Management	Quality Improvement Frameworks	Business Forecasting	Multimedia Systems
I= Introduction of topic; D= Development of Topic; A = Application of Topic								
Year								
7. Technology and Security								
Describe and explain the theoretical and practical elements of IT security and security management, including practices, policies and procedures, in the context of the changing needs of IT for organizations.			A					
Describe and explain aspects of IT security and security management in the context of the wider world, addressing legislative and societal requirements			A					
Explain the technical concepts of IT Security, including cryptography, malicious logic, identity and auditing			A					
Construct, explain, and evaluate security policies and procedures			A					
Develop and execute technology-focused and user-centred performance and usability evaluations			A					
8. General Business								
Discuss the history and interpret the current role and future trends (e.g. globalization, social responsibility) of business within society and the global economy		A	A	A	A			
Compare and contrast various business designs and models (e.g. networked, supply chains, open innovation, collaborative ecosystems) and formulate appropriate models for various cases.		A						
Compare and contrast various kinds of organizations by industry sector, ownership, governance and size – their business models, key performance factors, dominant structures and processes	A							
9. Team Management								
Evaluate and apply the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)		A	A	A	AD			
Persuade, influence, motivate and provide guidance (In a team setting)	A	A	A	A	A	A	A	A
Facilitate a range of group innovation, analysis and decision making techniques (In a team setting)	A	A	A	A	A	A	A	A
Engender and sustain trust of team members (In a team setting)	A	A	A	A	A	A	A	A
Effectively use technologies to facilitate and support group activities and processes (In a team setting)	A	A	A	A	A	A	A	A
Exhibit an understanding of the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)								
10. Communications								
Apply a mastery of ethical reasoning, client relationship management, business courtesies and self-presentation in all aspects of the program								
Communicate clearly, efficiently and effectively in both oral and written methods in a business context	A	A	A	A	A	A	A	A
Construct a strategy for business communications leveraging social media tools, practices and networks		DA	DA		DA			DA
Formulate ideas effectively in public presentation settings, including graphics, layout and writing components	A	A	A	A	A	A	A	A
11. Critical, Innovative Thinking and Ethics								
Evaluate a new technology, criticize its strengths and weaknesses, appraise its usefulness to solve business problems and clearly, effectively and efficiently communicate the results		A	A	A	A	A	A	DA
Interpret the overall organizational learning and innovation process / life-cycle, and evaluate its role in organizational success				DA	DA	DA		A
12. Integrative								
Analyse a business problem – collect relevant information, describe and compare options and risks, and make recommendations. Appropriately use of relevant techniques such as systems thinking, qualitative, and quantitative analysis	A	A	A	A	A	DA	DA	
Design and communicate a moderately complex technology-enabled solution to a business problem	A	A	A	A			A	DA
Effectively plan, manage and lead a business technology project	A	A	A	A			A	A
Apply and synthesize programming knowledge with an understanding of business processes and practice.	A	A	A	A			A	A
Manage software and creative web and media application teams	A	A	A	A				DA

Curriculum Mapping - Business Informatics	BUSI3601U Operations Analysis and Optimization	INFR2810U Computer Architecture	BUSI3580U Network Systems	INFR2830U Operating Systems
Original Course Number / **Original Course Name**				
I= Introduction of topic; D= Development of Topic; A = Application of Topic				
Year				
1. Business Processes				
Compare and contrast the role, processes and structure of support functions of a business (e.g. general management, marketing, finance, R&D, IT, human resources)				
Discriminate among the role, processes and structures of operational functions of a business (e.g. sales, manufacturing, distribution, customer support	A			
Apply appropriate knowledge areas from the International Institute of Business Analysis (IIBA) Business Analysis Body of Knowledge (BABOK) to manage specific projects				
Analyze and evaluate a business process, develop the "to-be" design, and then to create the implementation plan and the business change management plan to implement this design				
2. Project and Change Management				
Explain the financial, operational, and reputational risk management. Articulate the implications for business decisions of cyclical and even-driven external risks (e.g. credit crunch, pandemics, global warming, peak oil)				
Create and justify a risk management plan to mitigate risks inherent in business in the implementation of information and communications technologies (e.g. systems development, data security and privacy, business continuity, outsourcing, off-shoring and infrastructure)				
Compare and contrast the choices and activities in procurement and management of purchased IT products and services				
Apply the Project Management Institute's Project Management Body of Knowledge (PMBOK)'s approach to academic and industry based projects				
Appraise the best practices for organizational change management				
Create an appropriate IT and lifecycle management plan (networks, desktop and data centre hardware, operating systems, databases) for a given organization or project.		I	I	
Evaluate IT investment decisions (e.g. make technology choices that will ease the integration of unpredictable future technologies)			I	
3. Strategy and Economics of Information				
Optimize the contributions of IT to the competitive strategies, innovations, decision-making and operations of various sizes and types of organizations, industry sectors, processes and functions				
Describe the impact of IT for individuals, groups, and communities, including culture, social and environmental issues				
Explain the business values, economics and governance of IT and the IT function within organizations, including IT's role, structure, challenges and career paths				
Evaluate the choices and activities in procurement and management of purchased IT products and services based on the structure, offerings, and dynamics of the Canadian and international IT industries. This includes the economics of ICTs and specific subsectors (e.g., ERP, open source, outsourcing, web, mobility)			I	
4. Information Technology				
Evaluate Data Standards and utilize these standards in the design of systems				
Explain, and evaluate Information Quality and the effect on decisions				
Describe and explain the theoretical and practical elements of legal requirement and ethical practices in the collection and storage of information				
5. Strategic Use of Business Intelligence & Data Analytics				
Appraise the discipline of knowledge discovery and data mining and its differences to transaction/operational systems				
Design date warehouse based data stores.				
Experiment with examples of business intelligence and data analysis including the use of various qualitative and quantitative methods of analysis to achieve a strategic goal	DA			
Compose appropriate user interface mechanisms with information and knowledge created by business intelligence and data analysis solutions				
Examine introductory concepts relating to ethics and privacy and the challenges these place on knowledge discovery and data mining				
6. Systems Design				
Analyze a business need, develop an RFx, evaluate the responses, and structure a contract with the successful vendor. Evaluate the effectiveness, appropriateness and usability of an implemented information system				
Explain, create, and evaluate algorithms, data structures, and networked communication protocols to develop modern computer software		D	D	
Explain the current and future issues in IT operations (e.g. delivery of service levels, change control, green IT)				D
Set-up and analyze hardware capabilities, runtime structures, and software interoperability		D	D	
Justify choice of programming language, hardware architecture, and functional or object-oriented software design		D	D	DA

Curriculum Mapping - Business Informatics	ectives (3			
Original Course Number	**BUSI3601U**	**INFR2810U**	**BUSI3580U**	**INFR2830U**
Original Course Name	Operations Analysis and Optimization	Computer Architecture	Network Systems	Operating Systems
I= Introduction of topic; **D= Development of Topic;** **A = Application of Topic**				
Year				
7. Technology and Security				
Describe and explain the theoretical and practical elements of IT security and security management, including practices, policies and procedures, in the context of the changing needs of IT for organizations.			A	
Describe and explain aspects of IT security and security management in the context of the wider world, addressing legislative and societal requirements				
Explain the technical concepts of IT Security, including cryptography, malicious logic, identity and auditing			A	DA
Construct, explain, and evaluate security policies and procedures				
Develop and execute technology-focused and user-centred performance and usability evaluations				DA
8. General Business				
Discuss the history and interpret the current role and future trends (e.g. globalization, social responsibility) of business within society and the global economy				
Compare and contrast various business designs and models (e.g. networked, supply chains, open innovation, collaborative ecosystems) and formulate appropriate models for various cases.			I	
Compare and contrast various kinds of organizations by industry sector, ownership, governance and size – their business models, key performance factors, dominant structures and processes				
9. Team Management				
Evaluate and apply the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)				
Persuade, influence, motivate and provide guidance (In a team setting)	A	A	A	A
Facilitate a range of group innovation, analysis and decision making techniques (In a team setting)	A	A	A	A
Engender and sustain trust of team members (In a team setting)	A	A	A	A
Effectively use technologies to facilitate and support group activities and processes (In a team setting)	A	A	A	A
Exhibit an understanding of the strengths of a diverse workplace (including ability, ethnicity, religion, gender, sexual orientation, age, generation)				
10. Communications				
Apply a mastery of ethical reasoning, client relationship management, business courtesies and self-presentation in all aspects of the program				
Communicate clearly, efficiently and effectively in both oral and written methods in a business context	A	A	A	A
Construct a strategy for business communications leveraging social media tools, practices and networks				
Formulate ideas effectively in public presentation settings, including graphics, layout and writing components	A	A	A	A
11. Critical, Innovative Thinking and Ethics				
Evaluate a new technology, criticize its strengths and weaknesses, appraise its usefulness to solve business problems and clearly, effectively and efficiently communicate the results				
Interpret the overall organizational learning and innovation process / life-cycle, and evaluate its role in organizational success				
12. Integrative				
Analyse a business problem – collect relevant information, describe and compare options and risks, and make recommendations. Appropriately use of relevant techniques such as systems thinking, qualitative, and quantitative analysis	DA			
Design and communicate a moderately complex technology-enabled solution to a business problem	DA			DA
Effectively plan, manage and lead a business technology project		A	A	A
Apply and synthesize programming knowledge with an understanding of business processes and practice.				A
Manage software and creative web and media application teams				

Appendix D – Faculty Member Curriculum Vitae