

Information Technology: Bachelor of Technology

Faculty of Business	kpu.ca/business
Implementation Date	01-Sep-2011
Start Date(s)	September January May
Admission Type	Selective entry
Enrolment Type	Open enrolment
Program Type	Undergraduate
Credential Granted	Baccalaureate Degree
Offered At	Surrey
Format	Full-time Part-time Co-op
How to Apply	www.kpu.ca/admission

DESCRIPTION

The Bachelor of Technology in Information Technology (BTech in IT) program allows students to earn a bachelor degree that prepares them for employment in the IT industry in Canada or for graduate school. Canada expects to hire over 100,000 new workers in the IT industry between 2011 and 2016. The BTech (IT) degree offers courses in computer hardware, operating systems, computer networks that lead to CISCO certification, computer security, server systems, virtualization and cloud computing, wireless networks, web programming, web design, web application development, mobile and social media application development, IT program management and entrepreneurship. Graduates of the program will work as system administrators, system analysts, networking professionals, software developers, web developers, mobile app developers, and IT project managers.

Students may apply to start the program in the summer semester but should note that course offerings may be limited. They are advised to consult a business degree advisor for course planning assistance.

Specific features of this program are:

- Recently revised curriculum with contemporary course contents
- Specializations in computer network administration and security, and mobile and web application development that provide focused, in-depth training in key IT areas
- Practical projects in most courses
- Course offerings during the day and in the evening for Fall, Spring and Summer semesters provide maximum flexibility for student schedules
- Year-long capstone project course provides students opportunities for advanced research and opportunities to work with real projects from industry
- Co-op opportunities with wide range of employers while earning a degree
- Professional networking opportunities to prepare for employment after graduation
- Flexible exit points with certificate (after 1 year), diploma (after 2 years) and degree (after 4 years)

CAREER OPPORTUNITIES

Graduates of this program may find employment in the following areas:

- Enterprise network system administration
- Information System security
- Web design, development and integration
- Mobile software application development
- Software analysis design and development
- Software quality assurance, testing and validation
- Enterprise resource planning (ERP) systems implementation
- Project management
- Hardware and software technical support
- Wireless systems development

PROGRAM ADMISSION REQUIREMENTS

New Admission Requirements for September 2013

Program admission requirements for this program have changed for the Fall 2013 intake.

In addition to KPU's General university admission requirements including the undergraduate-level English Proficiency Requirement, the following program admission requirements apply:

Year 1 Admission:

- Foundations of Mathematics 11 with a minimum grade of C+ (or equivalent) or Pre-Calculus 11 with a minimum grade of C (or equivalent).

Please Note: One post-secondary English course, equivalent to KPU's ENGL 1100, is a graduation requirement for all KPU degrees. Students wishing to complete the program without having to undertake any preparatory courses must enter with English 12 with a B grade or the equivalent. Please make an appointment with an Academic Advisor to plan your course selections accordingly.

Year 3 Admission:

Students may be admitted to the program in Year 3 provided they have ONE of the following:

1. KPU's Computer Information Systems (CISY) diploma with a minimum GPA of 2.7.
OR
2. A 60-credit diploma with a minimum GPA of 2.7 in the discipline of computer science, computer information systems, information technology or the equivalent, from a recognized post-secondary institution.

CONTINUANCE REQUIREMENTS

For students admitted to Year 1 of the program, continuation into Year 3 requires:

- successful completion of Year 1 and 2 program requirements (minimum 60 credits)
- minimum cumulative GPA of 2.0

PROGRAM REQUIREMENTS

The degree program requires a minimum of 120 credits of required courses and electives. Students admitted to year 3 will have already completed a minimum of 60 credits. If a first-year English course was not completed prior to year 3 entry, degree completion will require more than 120 credits in total.

Year 1 and 2

60 credits including:

Year 1 courses

INFO 1111	Introduction to Computer Hardware and Software	3 credits
INFO 1112	Principles of Program Structure and Design	3 credits
INFO 1113	Systems Analysis and Design	3 credits
CMNS 1140	Introduction to Professional Communication	3 credits
PHIL 1150	Introduction to Formal Logic	3 credits
INFO 1211	Operating Systems Principles And Applications	3 credits
INFO 1212	Networking Technologies I	3 credits
INFO 1213	Web Application Development	3 credits
INFO 1214	Discrete Mathematics for Information Technology	3 credits

Year 2 courses

ENGL 1100	Introduction to University Writing	3 credits
INFO 2311	Networking Technologies II	3 credits
INFO 2312	Database Management Systems	3 credits
INFO 2313	Object-Oriented Programming	3 credits
INFO 2411	Foundations of Computer Security	3 credits
INFO 2412	Management of Information Systems	3 credits
INFO 2413	System Development Project	3 credits

Courses taken during Year 1 and 2

BUSI 1110	Fundamentals of Business in Canada	3 credits
BUQU 1130	Business Mathematics	3 credits
BUQU 1230	Business Statistics	3 credits
CPSC 2302	Data Structures and Program Organization	3 credits

Years 3 and 4

60 credits are required to complete the degree. Students may select their courses in a way that helps them specialize in Network Administration and Security (NAS) or Mobile and Web

Application Development (MWAD). Recommended course choices are listed below.

Third and fourth year Information Technology courses are scheduled at times that try to accommodate the needs of students who work during the day.

YEAR 3

Four of:

INFO 3110	Professional Communications in Information Technology	3 credits
INFO 3150	Object-Oriented Software Engineering	3 credits
INFO 3210	Distributed Systems	3 credits
INFO 3250	Content Management and Information Architecture	3 credits
INFO 3280	Information Technology Project Management	3 credits

And:

One approved business liberal education elective	3 credits
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And one of:

LBED 4210	Ethics and Social Issues (discontinued)	3 credits
PHIL 3033	Business Ethics	3 credits

And any four of:

INFO 3135	Advanced Web Application Development	3 credits
INFO 3160	Network Operating Systems	3 credits
INFO 3170	Security of Enterprise Networks	3 credits
INFO 3180	Wireless Networks	3 credits
INFO 3225	Web Multimedia	3 credits
INFO 3235	Software Quality Assurance	3 credits
INFO 3240	Enterprise Resource Planning Systems	3 credits
INFO 3241	Identity Management	3 credits
INFO 3245	Mobile Programming I	3 credits
INFO 3246	Mobile Programming II	3 credits
INFO 3290	Networking Technologies III	3 credits

YEAR 4

All of:

INFO 4190	Integration Project I	3 credits
INFO 4290	Integration Project II	3 credits
INFO 4310	Entrepreneurial Development in Information Technology	3 credits

Two approved business liberal education electives 6 credits

- INFO 3245
- INFO 3246
- INFO 4125
- INFO 4225
- INFO 4235

And any five of:

INFO 4105	Search Engine Principles (under development)	3 credits
INFO 4110	Cloud Computing	3 credits
INFO 4115	Website Design	3 credits
INFO 4120	Digital Forensics	3 credits
INFO 4125	Web Site Security	3 credits
INFO 4210	Human Factors and Computer Interface Design	3 credits
INFO 4225	Animations	3 credits
INFO 4235	Special Topics in Web and Mobile Application Development	3 credits
INFO 4250	Special Topics in Network Administration and Security	3 credits
INFO 4330	Data Warehousing and Data Mining	3 credits
INFO 4370	Security of Wireless Systems	3 credits
INFO 4380	Wireless Sensor Networks	3 credits

Network Administration and Security (NAS) Specialization

Students can select their Year 3 and 4 courses in a way that satisfies the requirements for a specialization in network administration and security.

To complete the Bachelor of Technology with a specialization in Network Administration and Security, students must successfully complete:

Four Year 3 courses selected from:	And five Year 4 courses selected from:
■ INFO 3160	■ INFO 4110
■ INFO 3170	■ INFO 4120
■ INFO 3180	■ INFO 4330
■ INFO 3240	■ INFO 4370
■ INFO 3241	■ INFO 4380
■ INFO 3290	■ INFO 4250

Mobile and Web Application Development (MWAD):

Students can select their Year 3 and 4 courses in a way that satisfies the requirements for a specialization in mobile and web application development.

To complete the Bachelor of Technology with a specialization in Mobile and Web Application Development, students must successfully complete:

Four Year 3 courses selected from:	And five Year 4 courses selected from:
■ INFO 3135	■ INFO 4105
■ INFO 3225	■ INFO 4115
■ INFO 3235	■ INFO 4210

CO-OPERATIVE EDUCATION

The Bachelor of Technology – Information Technology degree is offered with a Co-operative Education option. Co-operative Education gives a student the opportunity to apply the skills gained during academic study in paid, practical work experience semesters. Degree students can complete a minimum of three work terms while completing their degree. Work terms generally occur full-time in separate 4 month work semesters but may also be available part-time over an 8 month continuous (parallel) placement. Work semesters alternate with academic study.

Students wishing to enter and participate in the Co-op Option must meet the following requirements:

Declaration/Entrance Requirements:

- Good academic standing

Program Continuance Requirements:

Continuation in the co-op option requires:

- Completion of COOP 1101 prior to 75 program credits (based on first year entry)
- Minimum program GPA of 2.5

Work Term Requirements:

Participation and enrolment in a co-op work term requires:

- Successful completion of COOP 1101
- Successful completion of 30 program credits based on first year entry
- Instructor permission

Co-op Requirements

The Co-operative Education designation requires successful completion of the following courses:

Required:

COOP 1101	Job Search Techniques	1 credit
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And all of:

COOP 1150*	Co-op Work Semester 1	9 credits
COOP 2150*	Co-op Work Semester 2	9 credits
COOP 3150*	Co-op Work Semester 3	9 credits

Optional:

COOP 4150*	Co-op Work Semester 4	9 credits
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* Part-time (Parallel) work terms may be taken over two semesters as COOP 1150A/1150B, COOP 2150A/2150B, COOP 3150A/3150B, or COOP 4150A/4150B respectively.

Additional requirements:

In addition to the requirements stated above, all Co-op students must satisfy the General Co-operative Education Requirements.

OTHER INFORMATION

Students enrolled in this program are expected to have their own laptop computers.

CREDENTIAL AWARDED

Upon successful completion of this program, students are eligible to receive a **Bachelor of Technology in Information Technology**.

Upon successful completion of this program with co-operative education, students are eligible to receive a **Bachelor of Technology in Information Technology, Co-operative Education Option**.