DURHAM COLLEGE
SUCCESS MATTERS

School of Business, IT & Management (BITM)
2014 – 2015

Computer Programmer, Computer Programmer Analyst,
Computer Systems Technician,
Computer Systems Technology,
Information Systems Security Graduate Certificate

PROGRAM GUIDE

INDEX

WELCOME STUDENTS

Please note the following important information:

Durham College strives to ensure the accuracy of the information in this publication. Please note that the academic curriculum is continually reviewed and revised to ensure program quality and relevancy. As such, the college reserves the right to modify or cancel any course, program, fee, procedure, timetable or campus location at any time. Please consult our website at http://www.durhamcollege.ca for the most current information.

A message from the Dean

On behalf of the faculty and staff of Durham College, it is a pleasure to welcome you to Durham College. You are embarking upon an exciting, challenging and rewarding journey.

We wish you success in your studies, supportive new relationships and an exciting future in your chosen career. We are committed to meeting your educational needs by providing a high quality program. We will all do our best to support you in meeting your goals. If you have any questions or need any kind of assistance please ask us. The School of Business, IT & Management office is located in room C223 (Hours: Mon.-Fri. 8:00 a.m. to 4:30 p.m.). We are here to help you.

We are pleased that you have chosen Durham College and we look forward to working with you.

Judy Spring,
Dean, School of Business, IT & Management

A message from the
Vice-President Academic Excellence & Innovation

Congratulations on choosing Durham College and taking a very important step in preparing for your future.   Durham College is known for high quality programs, leading edge technology, an award winning library and a student-centered approach to learning.   Supporting our mission that the student experience comes first, Durham College is committed to providing students with quality learning experiences and support in finding fulfillment in education, employment and lifelong learning.

Our programs are continually shaped by market needs and delivered by exceptional teachers with real-world experience.   The program you have chosen has been designed to help you develop the necessary skills and knowledge to support your success in your chosen career path. Our dedicated and professional staff and professors are committed to helping you achieve your educational goals and your career aspirations.

Durham College strives to be accountable to students and employers through the preparation of work-ready graduates who will continue to live our "success matters" focus in their professional work environment.

We are pleased you have chosen to study at Durham College and we look forward to supporting your learning journey – work hard, have fun, enjoy your college experience and campus life.
I wish you much success with your studies.

Judy Robinson

Judy Robinson,
Vice President, Academic

CONTACT INFORMATION

The School of Business, IT & Management Office is located in C223. Our office hours are Monday – Friday 8:00 a.m. – 4:30 p.m. Staff & faculty can be reached by phone by dialing (905) 721-2000 and then the extension as listed on this director.

Office & Administrative staff….

	Office	Extension
Judy Spring, Dean ………………………………………………………	C219	2150
Jackie Bathe, Associate Dean ………………………………………..	C214	2792
Pam Guida, Administrative Support …………………………………...	C223	3064
Heather Dunlop, Student Advisor ……………………………………..	C215	2151
Lisa Burt, Administrative Coordinator …………………………………	C217	3065
Karl Alexander, Lab Technician ………………………………………..	C311	2041

Program Co-ordinators and Program Contacts….

	Office	Extension
Kevin Dougherty. …………………………………………..………………. Computer Programmer/Computer Programmer Analyst	C315	2270
Stephen Franks …………………………………………………………. Computer Systems Technician/Computer Systems Technology/ Information Systems Security Graduate Certificate	H216	2682

Faculty…

Updated lists of offices and phone extensions are posted on the electronic display in C223

Welcome to the School of Business, IT & Management. We are extremely pleased that you have chosen our program.

This program guide has been developed to inform you of important school and program information. Please remember to check MyCampus on an on-going basis for important information.

School Administrative Policies...

1. Freedom of Information/Protection of Privacy - Pursuant to the Freedom of Information & Protection of Privacy Act, the School of Business, IT & Management Office will not release any personal information regarding a student to anyone but the student without written consent. This includes academic standing, personal data, timetable information, etc.

2. Emergency Calls – School of Business, IT & Management staff will accept messages for students in the event of a family emergency. Please make sure that anyone in your life who needs to locate you during class time for reasons other than an emergency has a copy of your timetable (e.g. classmates, family, day care provider, and employer). The staff are unable to release your schedule information to anyone due to the Freedom of Information Act.

3. Regular communication between college staff and students is very important to ensure that students stay informed about special events, changes in programming and various deadlines. The School of Business, IT & Management Office will use DC Mail email to alert you to important details about your program. You are required to visit MyCampus often to view campus-wide announcements and to check your DC Mail email account.

4. Timetables are available online through our intranet – "MyCampus". You can view and/or print your timetable from any computer with internet access. If you require assistance, please contact the Help Desk : (905) 721-3333

5. Timetable Changes – MyCampus provides students with the ability to modify timetables at specified times as listed in the Academic Calendar (posted on MyCampus). **Please note: It is a student's responsibility to ensure that all of their required courses are on their schedules**. Assistance is available via your student advisor. Should you find a discrepancy on your timetable, **seek assistance immediately.**

6. Disclaimer - Because of our commitment to continuous improvement of our curriculum, there may be some changes in courses offered. If this occurs, we will notify those affected.

7. Computer Labs - Computer labs are reserved for coursework. Games are not permitted. Adult materials must not be displayed at any time. Please refer to the Information Technology Acceptable Use policy posted on the Durham College website www.durhamcollege.ca/academicpolicies.

8. Graduation Requirements - Students must have a minimum Grade Point Average (GPA) of 2.0 (60%) to be eligible for graduation. In addition, a student must have successfully completed all required courses. A student who has a GPA of less than 2.0 and/or need academic advice about missing

courses should contact the School of Business, IT & Management Office to arrange for academic counselling. Please refer to the academic policies posted on the Durham College website, www.durhamcollege.ca/academicpolicies, for more information. At least 25% of the completed program courses and/or weighted credit hours must be completed at Durham College to be eligible for a Durham College diploma. Students must complete an application for graduation on MyCampus.

9. Final Marks - Final marks will not be released by faculty members or office staff. Grades will be posted on MyCampus.

10. Assignments – Students must make arrangements with professors for handing in assignments outside of class time. Assignments will not be accepted by the office staff.

11. Exceptions to policies - under exceptional, documented circumstances, exceptions to policies may be made by the dean or associate dean.

Academic Policies…

All academic policies are posted on our website at www.durhamcollege.ca/academicpolicies. A link to this site is also provided via MyCampus under the "DC STUDENT" tab. Students should review and be aware of the policies and procedures in place.

Policies & Expectations for the Learning Environment…

1. Class attendance and participation will enhance your opportunities for success (see below for further information about the importance of attendance).

2. Refer to the course outline for specific expectations for each course.

3. All submissions must meet specified guidelines as detailed by the section professor.

4. Students are responsible for regularly checking their MyCampus and DC Connect areas for messages from professors and college administration. Communication will come in forms of emails, targeted messages and posted documents. Professors will confirm their preferred method of communication.

5. Students should keep back-up copies of all assignments in case the original is lost.

6. Electronic submission of assignments is at the option of the professor. Assignments submitted electronically must be in the software format as stated specifically by your professor. Attachments that will not open are the responsibility of the student and subject to the late penalty.

7. E-mails sent to professors and/or staff must be professional in appearance and content. Inappropriate emails will be retained and a copy forwarded to the dean or associate dean for appropriate action.

Attendance…

Attendance is closely linked to student success. Regular attendance is strongly encouraged as it has been shown to be the best predictor of student success. Courses are designed to build on skills previously learned and applied in class. A student missing topics will be less able to complete

subsequent assignments. If a student is absent from class, it is his/her responsibility to learn what was missed prior to the next class. It is the student's responsibility to attend all classes, labs, evaluations, field placement, etc. In the event that the student cannot fulfill this obligation, it is the student's responsibility to notify their faculty, as required. In addition, the faculty and/or placement agency may require explanation/documentation to substantiate an absence. Each student is responsible for any missed materials and instruction as a result of the absence. In addition, it is the student's responsibility to complete all assignments and to be aware of announcements made. It is the student's responsibility to arrive early, review notes, readings, and other requirements prior to class.

Courses have been developed to enhance skills that students need to be successful in college, and the workplace, and as such some of the writing assignments have been designed to take place in the classroom with peer and faculty support. Students should ensure that they are available in class to complete required work. Attendance must be regular.

Evaluation Policy…

Rationale - An effective evaluation policy has many goals and serves many stakeholders. For students, it should be both motivating and rewarding. For professors, it provides a framework for teaching and feedback for improving instruction or modifying curriculum. For the community, it should foster respect for our programs and confidence in our graduates.

Academic courses are evaluated in a variety of ways. These may include tests, written or oral assignments, and group work as well as final examinations. The use of electronic dictionaries, cell phones, pagers and other electronic devices in an invigilation setting is prohibited unless otherwise specified by the professor. The evaluation criteria for each course are included with the course outline. Students are advised to familiarize themselves with these criteria early in the semester. A passing grade in all courses is 50% (unless otherwise indicated in the course outline). A student must successfully complete all courses and maintain a GPA of 2.0 (60%) to be eligible to graduate.

Grade Appeals…

Students who do not agree with their marks have 11 business days from the release of final grades to initiate a grade appeal. The first step in the appeal is to speak to the professor who issued the grade. For more details on the grade appeal process please consult the procedures regarding grade appeals posted on MyCampus.

Examinations…

A final examination is defined as an invigilated comprehensive evaluation given just after regularly scheduled classes.   Final examinations will be held for courses as specified in the course outline. A final examination will be comprehensive, and examination questions should reflect the approximate time weighting specified in the course outline.

Class Tests and Quizzes…

In this section, a class test is defined as a scheduled and invigilated test commonly given in a regularly scheduled class. A quiz is defined as a short duration evaluation of lesser weighting than a test. Quizzes may be unannounced and are usually given during part of a regularly scheduled class. The weighting of tests and quizzes is specified in the course outline. The students and the dean must be notified in writing if changes are made during the teaching schedule. In the case of multiple section courses taught by more than one faculty member, prior approval is required to change the course outline.

1. To reflect established practice in the workplace and demonstrate responsibility, students are required to contact the section professor within 24 hours of the test if unable to be in attendance for a test. Voicemail messages and email messages are an acceptable form of contact. A failure to comply will result in a mark of zero for that test.

2. Tests must be written during the scheduled test time.

3. Given compliance with point one of this section, the weighting of a missed test will be applied to the final test or examination or the weighting of such other evaluation item(s) as the professor may select.

4. If one test has already been missed, any subsequent missed tests will be assigned a mark of zero.

5. Any missed quiz will be assigned a mark of zero.

6. Some courses may have additional policies which will be clearly stated in the individual course outline.

Missed Final Evaluation…

Any student who misses a final evaluation, e.g. final test, presentation, workshop, may be eligible to apply for a Missed Final Evaluation. Students are required to notify their professor of their absence via email within 24-hours of the scheduled evaluation. To be eligible, students must have no less than a cumulative 1.5 GPA, and apply for consideration using the appropriate forms and pay a fee. Some constraints may necessitate that not all courses will be eligible. Students will be required to meet with their Student Advisor to complete the Missed Final Evaluation form. Students will be required to go to the Test Centre to register and pay the associated fee of $150.00. Supplemental tests will be written in the Test Centre at a predetermined date and time. Students will ONLY be able to apply for a missed evaluation once in five years.

Please note: The Missed Final evaluation is an assessment that does not occur during the regularly scheduled Exam week (week 15), but generally occurs during the last two weeks of class.

Missed Final Examinations…

See the "Missed Final Examination" section towards the end of this guide.

Exam Conflicts…

Exam conflicts are rare. Students, who have two or more exams scheduled at the same time, should contact the School of Business, IT & Management office to reschedule their exam(s). Exams rescheduled are scheduled in the next available exam period.

Students who have more than two exams scheduled on the same day can apply to have one exam moved to another day as specified by school staff. Exams will not be rescheduled due to travel plans or appointments. See the "Missed Final Examinations" policy.

Assignments, Computer Labs and Group Work…

1. Refer to the Academic Integrity Policy and Procedure document found on the Durham College website or MyCampus regarding plagiarism.

2. To reflect the fact that lateness is unacceptable in the workplace, late assignments will be penalized. The late penalty to be applied to a particular assignment will appear in the course outline. The minimum penalty will be a 10% - 20% deduction per school day. The maximum penalty will be a mark of zero for the assignment. Assignments should be submitted in regularly scheduled classes. The submission of late assignments should be discussed with the section professor. Assignments should **never** be left under an office door or in the School of Business, IT & Management Office.

3. Students will not be allowed to do 'extra' assignments to 'bring up their mark' at the end of the term. Students must complete and hand in term work as it is assigned.

Prerequisite Courses…

Course prerequisites exist to promote student success. Exceptions to the established prerequisite course structure are not permitted. Students who do not have all credits completed from previous semesters may not be eligible for a full-time course load due to required pre-requisites. Students with "non-standard" scheduling needs are urged to review their academic plan with the student advisor each semester.

Repeating Courses…

Durham College's grading and promotion policy states that courses may be repeated only once without approval from the Dean or designate. The School of Business, IT & Management approves repeating of courses for all Business, IT & Management students who are repeating a course a second time or more. Students are encouraged to meet regularly with the student advisor if they are struggling with academic success and to take advantage of services offered through the Student Academic Learning Services department (SALS).

Full-Time Equivalent (FTE)…

Full-time students may choose to register for Continuous Education courses equivalent to their day courses. Students must obtain and complete the prescribed form in their school office; obtain signed authorization by the school dean or designate to enroll; and bring the form to the Student Services

Building for in-person processing. Students taking a Continuous Education course as part of their full-time studies, and not exceeding the prescribed number of course hours in the semester, will typically pay a $30 administration fee (distance education courses cost more). Students without an authorized form will pay full fees for courses delivered by the School of Continuing Education.

Withdrawing from Courses...

Dropping a course can be done via MyCampus.   It is recommended that you meet with your Student Advisor prior to making any changes to your Program of Studies.   Deadlines for dropping courses are posted on MyCampus and the Student Handbook.   Please note: Dropping courses may lengthen the time it takes to obtain your diploma and will result in extra fees to complete your course of study.

Course & Program Changes...

Adding courses or changing a program must be done within the first week of course or program commencement.

Application for Graduation...

Applications for graduation for those wishing to graduate at the Spring Convocation are available online via MyCampus in January and due by a specified deadline (usually mid-February). A diploma will not be prepared until the application is received. Applications for graduation for the Fall Convocation are usually due by mid-September. Check MyCampus for deadline dates and updates.

Student Services Building (SSB)...

The SSB can assist students with registration, admissions, financial aid, transfer credit applications, career counseling, work-study programs, student services, international student support, and SALS (Student Academic Learning Services) which provides peer tutoring and study support. You can contact a representative at the SSB at 905-721-3000 or visit the Student Services Building.

Learning Outcomes...

In an effort to maintain a level of quality and consistency of programs in community colleges across the province, the Government of Ontario initiated system-wide program standards in 1993. Similar programs must meet the outlines standards for employability skills, vocational standards and general education standards as deemed appropriate by the Ministry of Training, Colleges and Universities. These standards outline the essential skills and knowledge that a student must demonstrate in order to graduate from their program. For further information, please visit http://www.edu.gov.on.ca (search – Program Standards).

Please refer to the program information section of this guide for information about your program learning outcomes.

GRADUATION AUDIT & DEGREE EVALUATION

Students are encouraged to check their **Program of Studies** in this guide to verify that they have **all of the required courses** in their scheduled timetable **each** semester. It is a student's responsibility to register for any outstanding courses to ensure they meet the graduation requirements. Students who have a **field placement** in their program are also encouraged to check their status and field placement eligibility prior to the placement term commencing to ensure they are able to complete the field placement program. In most cases, all year one and two courses and a 2.0 GPA is required to be eligible for field placement. Please refer to your Program of Studies and program information in this guide.

Students can access degree evaluations and run a graduation audit through MyCampus. Please follow these instructions to do so:

1. Select 'Click here to access Administrative Services'

2. Select 'Student information – Durham College'

3. Click on 'Student Records'

4. Select 'Degree Evaluation'

5. Press 'Submit'

6. Click on 'Generate New Evaluation'

7. Select the bullet beside the word 'Program' and then click 'Generate Request'

8. Please select the desired display:

    a) General Requirement – Summary of all taken courses

    b) Detail Requirements – Details of grades & courses

    c) Additional Information – In-Progress courses and not used courses

If you are a non-standard student and have been advised or received approval to take equivalent courses (including Continuing Education courses), the degree evaluation may not work accurately.

Please make an appointment with your student advisor if you need assistance with reviewing your status and for clarification or if you have any questions.

COMPUTER PROGRAMMER/ COMPUTER PROGRAMMER ANALYST PROGRAM DESCRIPTION

Preparing for success….

Computer Programmer and Computer Programmer Analyst areas of study include computer applications, computer programming and operating systems, database management, Internet development, system analysis, and computer hardware. As well, students learn about network management and business computing concepts.

Beginning in fall 2014, students enrolled in Computer Programmer or Computer Programmer Analyst share a common program of studies for the first two years. This allows a student to easily transfer from one program to another.

The inevitable advances which will be achieved in the coming years make information technology one of the most dynamic fields in the business world today. Durham College graduates play an important role in this challenging field. A major focus of both programs is the development of the necessary collaboration and communication skills to allow an IT student to successfully transition to a rewarding career in IT. These programs become progressively more demanding on the students' time and require a significant time commitment by the student, outside of scheduled class hours.

Computer Programmer 2-year Diploma…

Organizations in all fields depend on computer programmers to assist them with their application development needs. This program gives the student the current, competitive job skills required to begin a career in IT typically in a broad variety of IT-related entry level positions.

Computer Programmer Analyst 3-year Advanced Diploma…

For over 20 years, the Computer Programmer Analyst program has provided graduates who meet the needs of business' and organizations through effective IT support of the most critical business processes.   Most graduates begin in application development, database development, computer and/or systems support, project management or network operations.

With experience, advancement can be expected through many areas of IT and business. Experienced graduates have attained positions as senior project managers, application developers, systems analysts, team leaders, managers and directors. For the hard working individual who is willing to continue to study and keep up-to-date, the employment opportunities are unlimited with above average income and advancement opportunities.

Laptop learning program...

Students enrolled in laptop programs will enjoy an exceptional learning experience through the use of technology. The advanced technical skills and knowledge that employers look for in graduates will provide students with a decided advantage when entering the workforce. Please pay close attention to the hardware and software requirements of your program as the requirements are not the same for all laptop programs.

How laptop learning works:

- Review your specific program page for hardware and software requirements
- Acquire your own laptop from a vendor of your choosing including all of the hardware and software components listed on your program page

Please note: Some software may be included in tuition fees for some programs. Please ensure that you are required to buy software before making a purchase. Some software may be distributed to all first year students by the Computer Lab Technologist.

Visit www.durhamcollege.ca/mobile for more information.

COMPUTER PROGRAMMER
PROGRAM OF STUDIES

YEAR 1 STUDENTS – SEPTEMBER 2014 START

(FOR STUDENTS WHO STARTED IN FALL 2013 OR JANUARY 2014, PLEASE REFER TO THE PROGRAM OF STUDIES FOR CURRENT YEAR 2 STUDENTS)

PROGRAM OFFERS SEPTEMBER AND JANUARY START DATES

Course Name	Course Code	Pre-requisite(s)	Co-requisite(s)	LEC hrs	LAB hrs	ALT DEL hrs	FP hrs
SEMESTER 1							
Communications I for IT	COMM 3201			3	0	0	
Intro to Databases	DBAS 1201			4	0	0	
Data Communications & Networking I	DCOM 1100			4	0	0	
General Education Elective	GNED 0000			3	0	0	
Mathematics for IT	MATH 1110			3	0	0	
Intro to Programming	PROG 1205			4	0	0	
				21	**0**	**0**	
SEMESTER 2							
Computer Operating Systems	COPS 1104			4	0	0	
Computer Systems I	CSYS 1122			2	2	0	
.Net Development I	NETD 2202	PROG 1205		3	0	0	
OOP I	OOP 2200	PROG 1205		1	3	0	
Systems Development I	SYDE 2203			2	1	0	
Web Development Fundamentals	WEB 2201			2	2	0	
				14	**8**	**0**	
SEMESTER 3							
Communications II for IT	COMM 4201	COMM 3201		2	0	1	
General Education Elective	GNED 0000			3	0	0	
.Net Development II	NETD 3202	NETD 2202		3	0	0	
OOP II	OOP 3200	OOP 2200		4	0	0	
Systems Development II	SYDE 3203	SYDE 2203	WEDE 3201	2	1	0	
System Support & Automation	SYSA 3204			3	0	0	
Web Development - Intermediate	WEDE 3201	WEB 2201	SYDE 3203	4	0	0	
				21	**1**	**1**	

Course Name	Course Code	Pre-requisite(s)	Co-requisite(s)	LEC hrs	LAB hrs	ALT DEL hrs	FP hrs
SEMESTER 4							
Database Development I	DBAS 5206	DBAS 1201 SYDE 3203		3	0	0	
General Education Elective	GNED 0000			3	0	0	
Mainframe Development I	MAFD 4202	PROG 1205		4	0	0	
Mobile Development	MODE 4201	OOP 3200 WEDE 3201		4	0	0	
OOP III	OOP 4200	OOP 3200		4	0	0	
Web Development – Java	WEDJ 4203	OOP3200 WEDE 3201		4	0	0	
				22	**0**	**0**	

NOTES:

GNED – GENERAL EDUCATION – Courses beginning with "GNED" are "General Education" subjects; students are to choose a General Education Elective from a provided list of acceptable courses.

Laptop – Curriculum is delivered in a mobile computing environment. Students are required to purchase a laptop computer for use in class. This is a mandatory requiring. Specifications for hardware & software requirements are available at www.durhamcollege.ca/mobile

COMPUTER PROGRAMMER
PROGRAM OF STUDIES

CURRENT YEAR 2 STUDENTS

Course Name	Course Code	Pre-requisite(s)	Co-requisite(s)	LEC hrs	LAB hrs	ALT DEL hrs	FP hrs
SEMESTER 3							
Communications II for IT	COMM 4201	COMM 3201		3	0	0	
PC Helpdesk	COMP 4207			4	0	0	
C++ Programming II	CPRG 4202	CPRG 3202		3	0	0	
Database Development I	DBAS 5206	DBAS 1201, SAAD 3203	PROJ 3202	3	0	0	
Internet Development II	INTN 3201	INTN 2201		4	0	0	
Project Management	PROJ 3202		DBAS 5206	3	0	0	
				20	**0**	**0**	
SEMESTER 4							
C# Programming	DNET 4200	CPRG 4202		3	0	0	
General Education Elective	GNED 0000			3	0	0	
General Education Elective	GNED 0000			3	0	0	
Java Development	JAVA 5203	PROG 1205		2	2	0	
Emerging Technologies	TECH 6200	DBAS 5206, INTN 3201		4	0	0	
Visual Basic II	VISB 6201	VISB 3202		4	0	0	
				19	**2**	**0**	

NOTES:

GNED – GENERAL EDUCATION – Courses beginning with "GNED" are "General Education" subjects; students are to choose a General Education Elective from a provided list of acceptable courses.

Laptop – Curriculum is delivered in a mobile computing environment. Students are required to purchase a laptop computer for use in class. This is a mandatory requiring. Specifications for hardware & software requirements are available at www.durhamcollege.ca/mobile

COMPUTER PROGRAMMER
LEARNING OUTCOMES

Upon successful completion of the computer programmer program, graduates have reliably demonstrated ability to:

- Use documented solutions to troubleshoot problems associated with software installation and customization.

- Develop, test, document, deploy, and maintain secure program code based on specifications.

- Perform routine maintenance on a database.

- Apply knowledge of networking concepts to develop, deploy, and maintain program code.

- Gather and document required information and assist in an analysis of a business.

- Use relevant methodologies, policies, and standards to develop secure program code.

- Maintain effective working relationships with clients.

- Conform to workplace expectations found in information technology (IT) environments.

- Contribute to the successful completion of the project applying the project management principles in use.

COMPUTER PROGRAMMER ANALYST PROGRAM OF STUDIES

YEAR 1 STUDENTS – SEPTEMBER 2014 START

(FOR STUDENTS WHO STARTED BETWEEN FALL 2012 AND JANUARY 2014, PLEASE REFER TO THE PROGRAM OF STUDIES FOR CURRENT YEAR 2 AND YEAR 3 STUDENTS)

PROGRAM OFFERS SEPTEMBER AND JANUARY START DATES

Course Name	Course Code	Pre-requisite(s)	Co-requisite(s)	LEC hrs	LAB hrs	ALT DEL hrs	FP hrs
SEMESTER 1							
Communications I for IT	COMM 3201			3	0	0	
Intro to Databases	DBAS 1201			4	0	0	
Data Communications & Networking I	DCOM 1100			4	0	0	
General Education Elective	GNED 0000			3	0	0	
Mathematics for IT	MATH 1110			3	0	0	
Intro to Programming	PROG 1205			4	0	0	
				21	**0**	**0**	
SEMESTER 2							
Computer Operating Systems	COPS 1104			4	0	0	
Computer Systems I	CSYS 1122			2	2	0	
.Net Development I	NETD 2202	PROG 1205		3	0	0	
OOP I	OOP 2200	PROG 1205		1	3	0	
Systems Development I	SYDE 2203			2	1	0	
Web Development Fundamentals	WEB 2201			2	2	0	
				14	**8**	**0**	
SEMESTER 3							
Communications II for IT	COMM 4201	COMM 3201		2	0	1	
General Education Elective	GNED 0000			3	0	0	
.Net Development II	NETD 3202	NETD 2202		3	0	0	
OOP II	OOP 3200	OOP 2200		4	0	0	
Systems Development II	SYDE 3203	SYDE 2203	WEDE 3201	2	1	0	
System Support & Automation	SYSA 3204			3	0	0	
Web Development - Intermediate	WEDE 3201	WEB 2201	SYDE 3203	4	0	0	
				21	**1**	**1**	

Course Name	Course Code	Pre-requisite(s)	Co-requisite(s)	LEC hrs	LAB hrs	ALT DEL hrs	FP hrs
SEMESTER 4							
Database Development I	DBAS 5206	DBAS 1201, SYDE 3203		3	0	0	
General Education Elective	GNED 0000			3	0	0	
Mainframe Development I	MAFD 4202	PROG 1205		4	0	0	
Mobile Development	MODE 4201	OOP 3200, WEDE 3201		4	0	0	
OOP III	OOP 4200	OOP 3200		4	0	0	
Web Development - Java	WEDJ 4203	OOP 3200 WEDE 3201		4	0	0	
				22	**0**	**0**	
SEMESTER 5							
Database Development II	DBAS 6206	DBAS 5206	SYDE 5203	3	0	0	
IT for Business I	ITBU 5200			4	0	0	
Mainframe Development II	MAFD 5202	MAFD 4202		4	0	0	
Systems Development III	SYDE 5203	SYDE 3203	DBAS 6206	3	0	0	
Web Development - Frameworks	WEBF 5201	WEDE 3201		4	0	0	
				18	**0**	**0**	
SEMESTER 6							
Capstone Project	CAPR 6203	All 1st & 2nd year courses + 2.0 GPA		4	0	0	
Field Placement Seminar – CPA	FWKI 6203			1	0	0	
Field Placement – CPA	FWKI 6204	All 1st & 2nd year courses + 2.0 GPA		0	0	0	160
IT for Business II	ITBU 6200	ITBU 5200		4	0	0	
Mainframe Development III	MAFD 6202	MAFD 5202		4	0	0	
Emerging Technologies	TECH 6200	DBAS 5206, WEDE 3201		4	0	0	
Web Development – Client Side Scripting	WEBC 6201	WEDJ 4203		4	0	0	
				21	**0**	**0**	**160**

NOTES:

GNED – General Education – Students are to choose a General Education Elective from a provided list of acceptable courses.

Laptop – Curriculum is delivered in a mobile computing environment. Students are required to purchase a laptop computer for use in class. This is a mandatory requiring. Specifications for hardware & software requirements are available at www.durhamcollege.ca/mobile

*Field Placement – Successful completion of all year 1 & 2 subjects and a GPA of 2.0 is required for field placement eligibility.

Capstone Project - Successful completion of all year 1 & 2 subjects and a GPA of 2.0 is required for Capstone Project eligibility.

Semester 6 - Students take all subjects for the 12 weeks of the semester in a compressed format (additional hours of class each week to compensate for shorter semester). Students will be on field placement for the last 4 weeks.

COMPUTER PROGRAMMER ANALYST PROGRAM OF STUDIES

CURRENT YEAR 2 & 3 STUDENTS

Course Name		Course Code	Pre-requisite(s)	Co-requisite(s)	LEC hrs	LAB hrs	ALT DEL hrs	FP hrs
SEMESTER 3								
COBOL Programming I		COBL 3201	PROG 1205		4	0	0	
Communications II for IT		COMM 4201	COMM 3201		3	0	0	
C++ Programming II		CPRG 4202	CPRG 3202		3	0	0	
Internet Development II		INTN 3201	INTN 2201		4	0	0	
Accounting I	**OPT**	ACCT 1200			3	0	0	
Human Resources MGMT I	**OPT**	HRM 1200			3	0	0	
Operations MGMT I	**OPT**	OPER 1200			3	0	0	
Marketing I	**OPT**	MKTG 1200			3	0	0	
					20	**0**	**0**	

Note: OPT – students select two option courses. ACCT 1200 and OPER 1200 will be scheduled. Students can change to other options during timetable change period.

Course Name		Course Code	Pre-requisite(s)	Co-requisite(s)	LEC hrs	LAB hrs	ALT DEL hrs	FP hrs
SEMESTER 4								
COBOL Programming II		COBL 4200	COBL 3201		4	0	0	
C# Programming		DNET 4200	CPRG 4202		3	0	0	
General Education Elective		GNED 0000			3	3	3	
Java Development		JAVA 5203	PROG 1205		4	0	0	
Visual Basic II		VISB 6201	VISB 3202		4	0	0	
Accounting II	**OPT**	ACCT 2200	ACCT 1200		4	0	0	
Human Resources MGMT II	**OPT**	HRM 2200	HRM 1200		4	0	0	
Marketing II	**OPT**	MKTG 2200	MKTG 1200		4	0	0	
Operations MGMT II	**OPT**	OPER 2200	OPER 1200		4	0	0	
					22	**0**	**0**	

Note: OPT – students select one option course. ACCT 2200 or OPER 2200 will be scheduled. Students can change to other option during timetable change period.

Course Name	Course Code	Pre-requisite(s)	Co-requisite(s)	LEC hrs	LAB hrs	ALT DEL hrs	FP hrs
SEMESTER 5							
Online Programming I	CICS 5205	COBL 3201		4	0	0	
PC Helpdesk	COMP 4207			4	0	0	
Database Development I	DBAS 5206	DBAS 1201 SAAD 3203	PROJ 3202	3	0	0	
Field Placement Seminar-CPA	FWKI 6203			1	0	0	
General Education Elective	GNED 0000			3	0	0	

CURRENT YEAR 2 & 3 STUDENTS CONT…

Course Name	Course Code	Pre-requisite(s)	Co-requisite(s)	LEC hrs	LAB hrs	ALT DEL hrs	FP hrs
SEMESTER 5 CONT…							
Statistics I	MATH 2201			3	0	0	
Project Management	PROJ 3202		DBAS 5206	3	0	0	
				21	**0**	**0**	
SEMESTER 6							
Online Programming II	CICS 6205	CICS 5205		4	0	0	
Database Development II	DBAS 6206	DBAS 5206 VISB 6201	DNET 4201	3	0	0	
Field Placement -CPA	FWKI 6204	All 1st & 2nd year courses + 2.0 GPA		0	0	0	160
Internet Development III	INTN 6203	INTN 3201 JAVA 5203		4	0	0	
Emerging Technologies	TECH 6200	DBAS 5206 INTN 3201		4	0	0	
				19	**0**	**0**	**160**

Notes:

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*Field Placement – Successful completion of all year 1 & 2 subjects and a GPA of 2.0 is required for field placement eligibility.

Semester 6 - Students take all subjects for the 12 weeks of the semester in a compressed format (additional hours of class each week to compensate for shorter semester). Students will be on field placement for the last 4 weeks.

COMPUTER PROGRAMMER ANALYST
LEARNING OUTCOMES

Upon successful completion of the computer programmer analyst program, graduates have reliably demonstrated ability to:

- Troubleshoot and document problems associated with software installation and customization.
- Analyze and define the specifications of a system based on requirements.

- Design, test, document, and deploy programs based on specifications.

- Apply knowledge of the design, modeling, implementation, and maintenance of a database.

- Apply knowledge of networking concepts to develop, deploy, and maintain programs.

- Propose and justify the design and development of an integrated solution based on an analysis of the business environment.

- Use relevant methodologies, policies, and standards to develop integrated solutions.

- Apply knowledge of security issues in the analysis, design, and implementation of integrated solutions.

- Develop and maintain effective working relationships with clients.

- Articulate, defend, and conform to workplace expectations found in information technology (IT) environments.

- Contribute to the successful completion of the project applying the project management principles in use.

COMPUTER PROGRAMMER ANALYST
FIELD PLACEMENT

Field training provides valuable experience in the workplace. When on field placement, students must realize that their behaviour reflects upon the entire student body and the image of the college. Students are expected to act in a professional manner. This includes punctuality and regular attendance.

1. It is <u>strongly recommended</u> that students do not carry any outstanding courses in third year to ensure that they meet field placement pre-requisite requirements and graduation deadlines.

2. Field placement pre-requisites require the successful completion of all first and second year courses and a cumulative GPA of 2.0 or higher. **Students missing any of the pre-requisites for field placement will not be registered in this course and will be required to register and pay for this course once all pre-requisites are completed**. Durham College strives to offer alternate formats and deliveries of equivalent courses through Continuing Education. Students are encouraged to discuss options with the student advisor.

3. Students must complete all field placement workshop and workplace components. See course outline for details.

4. Students must attend all field placement meetings scheduled by the college field placement coordinator. A mark for attendance at these meetings may be assigned. See course outline for details.

5. Students must complete the required hours for field placement as stated in the course outline.

6. Students must notify both the employer and the college field placement coordinator if unable to report for field placement. A failure to comply is grounds for immediate course failure and termination of the field placement experience.

7. All reports are to be submitted by the due dates assigned, late submissions will not be accepted.

8. All students are expected to conduct a field placement search and attend interviews on a regular basis until a suitable placement is secured. All student-sourced placements must first be assessed by the field placement coordinator to ensure its suitability as an IT placement.

9. All placements must be secured prior to the tenth week of the final semester to ensure adequate time for completion of pre-placement activities associated with that placement. Failure to do so may result in the student not being permitted to attend placement thus putting their credit in the course in jeopardy.

10. Students are personally responsible for covering travel expenses to and from the company.

11. Field placement assignments are unpaid positions.

COMPUTER SYSTEMS TECHNICIAN PROGRAM DESCRIPTION

A two-year program to prepare you for success…

Computers and networks are everywhere, and there is no workplace that doesn't use them. The two-year Computer Systems Technician program is the perfect vehicle to launch the graduate on a rewarding career in computer assembly, installation, configuration and trouble shooting.

Beginning in fall 2014, students enrolled in Computer Systems Technician or Computer Systems Technology share a common program of studies for the first two years. This allows a student to easily transfer from one program to another.

Build a career…

You will help support computer users throughout the entire organization by deploying desktop and laptop systems, assisting users with day to day tasks, support help desk environments, troubleshoot networking issues and roll out emerging technologies that will give your organization a competitive advantage.

You will have a variety of jobs to choose from: technical support specialist, help desk support, sales support or training.

Laptop learning program...

Students enrolled in laptop programs will enjoy an exceptional learning experience through the use of technology. The advanced technical skills and knowledge that employers look for in graduates will provide students with a decided advantage when entering the workforce. Please pay close attention to the hardware and software requirements of your program as the requirements are not the same for all laptop programs.

How laptop learning works:
- Review your specific program page for hardware and software requirements
- Acquire your own laptop from a vendor of your choosing including all of the hardware and software components listed on your program page

Please note: Some software may be included in tuition fees for some programs. Please ensure that you are required to buy software before making a purchase. Some software may be distributed to all first year students by the Computer Lab Technologist.

Visit www.durhamcollege.ca/mobile for more information.

COMPUTER SYSTEMS TECHNICIAN PROGRAM OF STUDIES

YEAR 1 STUDENTS – SEPTEMBER 2014 START

(FOR STUDENTS WHO STARTED IN FALL 2013 OR JANUARY 2014, PLEASE REFER TO THE PROGRAM OF STUDIES FOR CURRENT YEAR 2 STUDENTS)

PROGRAM OFFERS SEPTEMBER AND JANUARY START DATES

course name	course code	pre-requisite(s)	co-requisite(s)	lec hrs	lab hrs	alt del hrs	fp hrs
SEMESTER 1							
Communications I for IT	COMM 3201			2	1	0	
Intro to Databases	DBAS 1201			4	0	0	
Data Communications & Networking I	DCOM 1100			4	0	0	
General Education Elective	GNED 0000			3	0	0	
Mathematics for IT	MATH 1110			3	0	0	
Intro to Programming	PROG 1205			1	3	0	
				17	**4**	**0**	
SEMESTER 2							
Computer Operating Systems	COPS 1104			4	0	0	
Computer Systems I	CSYS 1122			2	2	0	
Data Communications & Networking II	DCOM 2100	DCOM 1100		0	4	0	
OOP I	OOP 2200	PROG 1205		1	3	0	
Intro to Cloud Computing & Virtualization	VIRT 2200			0	3	0	
Web Development Fundamentals	WEB 2201			4	0	0	
				11	**12**	**0**	
SEMESTER 3							
Communications II for IT	COMM 4201	COMM 3201		3	0	0	
Computer Systems II	CSYS 2122	CSYS 1122		2	2	0	
Data Communications & Networking III	DCOM 3100	DCOM 2100		0	4	0	
Network Administration I	NETW 4102	COPS 1104		4	0	0	
Scripting & Automation I	PROG 3103	COPS 1104		2	2	0	
Project Management	PROJ 6101			2	1	0	
				13	**9**	**0**	

course name	course code	pre-requisite(s)	co-requisite(s)	lec hrs	lab hrs	alt del hrs	fp hrs
SEMESTER 4							
Intro to Linux	CLNT 1100	COPS 1104		0	2	1	
Data Communications & Networking IV	DCOM 4100	DCOM 3100		0	4	0	
General Education Elective	GNED 0000			3	0	0	
General Education Elective	GNED 0000			3	0	0	
Network Administration II	NETW 5100	NETW 4102		2	2	0	
Scripting & Automation II	PROG 4103	PROG 3103		2	2	0	
				10	**10**	**1**	

NOTES:

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COMPUTER SYSTEMS TECHNICIAN PROGRAM OF STUDIES

CURRENT YEAR 2 STUDENTS

course name	course code	pre-requisite(s)	co-requisite(s)	lec hrs	lab hrs	alt del hrs	fp hrs
SEMESTER 3							
Communications II for IT	COMM 4201	COMM 3201		3	0	0	
Computer Systems II	CSYS 2122	CSYS 1122		2	2	0	
Data Communications & Networking III	DCOM 3100	DCOM 2100		0	4	0	
Network Administration I	NETW 4102	COPS 1104		4	0	0	
Scripting & Automation I	PROG 3103	COPS 1104		2	2	0	
				11	**8**	**0**	
SEMESTER 4							
Intro to Linux	CLNT 1100	COPS 1104		0	2	1	
Data Communications & Networking IV	DCOM 4100	DCOM 3100		0	4	0	
General Education Elective	GNED 0000			3	0	0	
General Education Elective	GNED 0000			3	0	0	
Networking Administration II	NETW 5100	NETW 4102		2	2	0	
				8	**8**	**1**	

NOTES:

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COMPUTER SYSTEMS TECHNICIAN LEARNING OUTCOMES

Upon successful completion of the computer systems technician program, graduates have reliably demonstrated the ability to:

- Analyze and resolve information technology problems through the application of systematic approaches and diagnostic tools.

- Support the implementation and administration of computer systems.

- Support the implementation and administration of networking solutions.

- Install, configure, troubleshoot, maintain, and upgrade components of computer systems.

- Install, configure, troubleshoot, maintain, and upgrade components of networks.

- Use a variety of scripting tools and languages to automate routine tasks.

- Follow, monitor, and document data storage procedures designed to ensure the integrity of information.

- Apply knowledge of security issues to the implementation of information technology solutions.

- Provide efficient and effective technical support to clients in a manner that promotes safe computing practices and reduces the risk of the issue recurring.

- Conform to workplace expectations found in information technology (IT) environments.

- Contribute to the successful completion of the project applying the project management principles in use.

COMPUTER SYSTEMS TECHNOLOGY
PROGRAM DESCRIPTION

A three-year program to prepare you for success…

Computers and networks are everywhere, and there is no workplace that doesn't use them. As a graduate of Computer Systems Technology, you will be ready for a career in the information technology field. Job opportunities abound not only in high tech companies, but businesses and organizations that seem to be totally unrelated. You will help support computer users throughout the entire organization by deploying desktop and laptop systems, looking after the critical servers for email, databases and the Web, and by looking ahead to emerging technologies that will give your organization a competitive advantage.

You will have a variety of jobs to choose from: network and systems administrator, technical support specialist, security administrator, sales support or training. You will also be a partner with other stakeholders in the organization in developing and implementing information security policies and best practices. The objective of the three-year Computer Systems Technology program is to prepare students to work in the many areas of business, industry and government; that require the design, testing, installation and maintenance of computer hardware and software systems.

Beginning in fall 2014, students enrolled in Computer Systems Technician or Computer Systems Technology share a common program of studies for the first two years. This allows a student to easily transfer from one program to another.

Students participate in extensive lab work emphasizing practical career-oriented education and training. They develop current, relevant, competitive job skills in programming techniques, microprocessor technology, data communications, systems analysis, database administration, operating systems and firmware. The program creates multi-skilled graduates who can respond flexibly to the complex hardware, software and application needs and problems in today's information technology environment. In your final year, you will attend a field placement with a local company which will provide you with an excellent opportunity to gain valuable experience in applying the skills you learn in this program.

Laptop learning program...

Students enrolled in laptop programs will enjoy an exceptional learning experience through the use of technology. The advanced technical skills and knowledge that employers look for in graduates will provide students with a decided advantage when entering the workforce. Please pay close attention to the hardware and software requirements of your program as the requirements are not the same for all laptop programs.

How laptop learning works:

- Review your specific program page for hardware and software requirements

- Acquire your own laptop from a vendor of your choosing including all of the hardware and software components listed on your program page

Please note: Some software may be included in tuition fees for some programs. Please ensure that you are required to buy software before making a purchase. Some software may be distributed to all first year students by the Computer Lab Technologist.
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COMPUTER SYSTEMS TECHNOLOGY PROGRAM OF STUDIES

PROGRAM OFFERS SEPTEMBER AND JANUARY START DATES

course name	course code	pre-requisite(s)	co-requisite(s)	lec hrs	lab hrs	alt del hrs	fp hrs
SEMESTER 1							
Communications I for IT	COMM 3201			2	1	0	
Intro to Databases	DBAS 1201			4	0	0	
Data Communications & Networking I	DCOM 1100			4	0	0	
General Education Elective	GNED 0000			3	0	0	
Mathematics for IT	MATH 1110			3	0	0	
Intro to Programming	PROG 1205			1	3	0	
				17	**4**	**0**	
SEMESTER 2							
Computer Operating Systems	COPS 1104			4	0	0	
Computer Systems I	CSYS 1122			2	2	0	
Data Communications & Networking II	DCOM 2100	DCOM 1100		0	4	0	
OOP I	OOP 2200	PROG 1205		1	3	0	
Intro to Cloud Computing & Virtualization	VIRT 2200			0	3	0	
Web Development Fundamentals	WEB 2201			4	0	0	
				11	**12**	**0**	
SEMESTER 3							
Communications II for IT	COMM 4201	COMM 3201		3	0	0	
Computer Systems II	CSYS 2122	CSYS 1122		2	2	0	
Data Communications & Networking III	DCOM 3100	DCOM 2100		0	4	0	
Network Administration I	NETW 4102	COPS 1104		4	0	0	
Scripting & Automation I	PROG 3103	COPS 1104		2	2	0	
Project Management	PROJ 6101			2	1	0	
				13	**9**	**0**	

course name	course code	pre-requisite(s)	co-requisite(s)	lec hrs	lab hrs	alt del hrs	fp hrs
SEMESTER 4							
Intro to Linux	CLNT 1100	COPS 1104		0	2	1	
Data Communications & Networking IV	DCOM 4100	DCOM 3100		0	4	0	
General Education Elective	GNED 0000			3	0	0	
General Education Elective	GNED 0000			3	0	0	
Network Administration II	NETW 5100	NETW 4102		2	2	0	
Scripting & Automation II	PROG 4103	PROG 3103		2	2	0	
				10	**10**	**1**	
SEMESTER 5							
Client/Server Computing I	CLNT 1101	CLNT 1100		2	2	0	
Data Communications & Networking V	DCOM 5100	DCOM 4100		0	4	0	
Field Placement Seminar – CSTY	FWKC 5101			1	0	0	
Network Administration III	NETW 6100	NETW 5100		2	2	0	
CCNA Security	SECR 1100	DCOM 4100		0	4	0	
				5	**12**	**0**	
SEMESTER 6							
Client/Server Computing II	CLNT 2101	CLNT 1101		2	2	0	
Field Placement – CSTY	FWKC 6101	All 1st & 2nd year courses + 2.0 GPA		0	0	0	100
Network Administration IV	NETW 7100	NETW 5100		2	2	0	
Network Administration V	NETW 8100	NETW 5100		2	2	0	
Unified Communications	VOIP 2100	DCOM 4100		0	4	0	
				6	**10**	**0**	**100**

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Field Placement
*Successful completion of all year 1 & 2 subjects and a GPA of 2.0 are required for field placement eligibility.

 Semester 6 – Students will do their field placement for a two week block at the end of the semester.

COMPUTER SYSTEMS TECHNOLOGY
LEARNING OUTCOMES

Upon successful completion of the computer systems technician program, graduates have reliably demonstrated the ability to:

- Analyze and resolve information technology problems through the application of systematic approaches and diagnostic tools.

- Analyze, plan, design, and implement computer systems.

- Analyze, plan, design, and implement networking solutions.

- Install, configure, troubleshoot, monitor, maintain, upgrade, and optimize computer systems.

- Install, configure, troubleshoot, monitor, maintain, upgrade, and optimize networks.

- Use a variety of scripting tools and languages to automate routine tasks.

- Participate in the deployment and administration of databases within a networked environment.

- Plan, develop, and be responsible for data storage to ensure the integrity of information.

- Apply knowledge of security issues to the implementation of information technology solutions.

- Appraise existing security solutions with a view to on-going maintenance, development, and improvement of organizational security.

- Provide efficient and effective technical support to clients in a manner that promotes safe computing practices and reduces the risk of the issue recurring.

- Articulate, defend, and conform to workplace expectations found in information technology (IT) environments.

- Contribute to the successful completion of the project applying the project management principles in use.

COMPUTER SYSTEMS TECHNOLOGY
FIELD PLACEMENT

Field training provides valuable experience in the workplace. When on field placement, students must realize that their behaviour reflects upon the entire student body and the image of the college. Students are expected to act in a professional manner. This includes punctuality and regular attendance.

1. It is <u>strongly recommended</u> that students do not carry any outstanding courses in third year to ensure that they meet field placement pre-requisite requirements and graduation deadlines.

2. Field placement pre-requisites require the successful completion of all first and second year courses and a cumulative GPA of 2.0 or higher. **Students missing any of the pre-requisites for field placement will not be registered in this course and will be required to register and pay for this course once all pre-requisites are completed**. Durham College strives to offer alternate formats and deliveries of equivalent courses through Continuing Education. Students are encouraged to discuss options with the student advisor.

3. Students must complete all field placement workshop and workplace components. See course outline for details.

4. Students must attend all field placement meetings scheduled by the college field placement coordinator. A mark for attendance at these meetings may be assigned. See course outline for details.

5. Students must complete the required hours for field placement as stated in the course outline.

6. Students must notify both the employer and the college field placement coordinator if unable to report for field placement. A failure to comply is grounds for immediate course failure and termination of the field placement experience.

7. All reports are to be submitted by the due dates assigned, late submissions will not be accepted.

8. All students are expected to conduct a field placement search and attend interviews on a regular basis until a suitable placement is secured. All student-sourced placements must first be assessed by the field placement coordinator to ensure its suitability as an IT placement.

9. All placements must be secured prior to the tenth week of the final semester to ensure adequate time for completion of pre-placement activities associated with that placement. Failure to do so may result in the student not being permitted to attend placement thus putting their credit in the course in jeopardy.

10. Students are personally responsible for covering travel expenses to and from the company.

11. Field placement assignments are unpaid positions.

INFORMATION SYSTEMS SECURITY GRADUATE CERTIFICATE PROGRAM DESCRIPTION

Develop, evaluate, and support IT security solutions by creating cost effective and secure computing environments that will safeguard networked computer systems. This program will help you to become skilled in formulating and organizing security policies and procedures to protect corporate information assets including legal, regulatory and governance issues and teach you to detect various hacking and penetration attacks.

This program is designed for students with a three year degree or diploma in business, IT, computer science or a related field. Applicants without the educational requirement but with extensive industry experience will be considered. Working knowledge of TCP/IP protocols, basic networking concepts (both wired and wireless), the Microsoft and Linux server platforms and a basic understand of computer hardware are required for this program.

This eight-month graduate certificate program focuses on information systems security as it applies to business and will provide a hands-on approach to understanding a broad range of security concepts and industry best practices.

You will learn detailed, practical aspects of security such as risk analysis, vulnerability testing, writing security policies, implementing access controls and performing security audits. Emphasis will be placed on interpersonal, organizational, technical, communication and trouble-shooting skills applied to enhance the effective implementation of information systems.

This program incorporates a hybrid delivery model that includes both in-class and online learning to allow for added flexibility.

Laptop learning program...

Students enrolled in laptop programs will enjoy an exceptional learning experience through the use of technology. The advanced technical skills and knowledge that employers look for in graduates will provide students with a decided advantage when entering the workforce. Please pay close attention to the hardware and software requirements of your program as the requirements are not the same for all laptop programs.

How laptop learning works:

- Review your specific program page for hardware and software requirements
- Acquire your own laptop from a vendor of your choosing including all of the hardware and software components listed on your program page

Please note: Some software may be included in tuition fees for some programs. Please ensure that you are required to buy software before making a purchase. Some software may be distributed to all first year students by the Computer Lab Technologist.

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INFORMATION SYSTEMS SECURITY GRADUATE CERTIFICATE PROGRAM OF STUDIES

course name	course code	pre-requisite(s)	co-requisite(s)	lec hrs	lab hrs	alt del hrs	fp hrs
SEMESTER 1							
Business Continuity Management	MGMT 1212			1	0	2	
Network Systems & Components	NETW 1200			0	2	1	
Security Wireless Networks	NETW 1203			0	2	1	
Information Security	SECR 1200			1	0	2	
O/S Application Security	SECR 1201			0	2	1	
Business Processes & Security Policies	SECR 1202			1	0	2	
				3	**6**	**9**	
SEMESTER 2							
Computer Forensics & Data Mining	DATA 2201			2	0	1	
Hacking & Exploits	HACK 2200		NETW 2200	0	2	1	
Legal & Ethical Components in a Forensic Invest.	LAW 2211			1	0	2	
Network Monitoring & Penetration Testing	NETW 2200		HACK 2200	0	2	1	
Access Controls	PROG 2203			0	2	1	
Security Auditing & Governance	SECR 2200	MGMT 1212, SECR 1202		1	0	2	
				4	**6**	**8**	

NOTES:

LT = Curriculum is delivered in a mobile computing environment. Students are required to purchase a laptop computer for use in class. This is a mandatory requirement. Specifications for hardware & software requirements are available at www.durhamcollege.ca/mobile

INFORMATION SYSTEMS SECURITY GRADUATE CERTIFICATE LEARNING OUTCOMES

Upon successful completion of the Information Systems Security Graduate Certificate program, graduates have reliably demonstrated the ability to:

- Apply knowledge of computer operating systems, networking, and various application Software to the simulation of business processes

- Develop best practices to protect business resources through the application of knowledge of vulnerabilities and exploits

- Develop security strategies for the deployment of security procedures and protective devices

- Integrate information technology strategies that support business functions by employing knowledge of best practices of business processes and systems

- Develop security plans and strategies to include acceptable use of business information and

- Systems by internal employees, contractors, consultants, business partners and customers

- Develop security plans and strategies to ensure the integrity of information in compliance with best practices, relevant policies, standards, and regulations

- Apply project management principles in the deployment of security policies and strategies

- Perform security audits to ensure compliance with security plans, policies, standards, regulations and best practices

- Develop and deliver a corporate training program to communicate both orally and in writing the security requirements for compliance with security policies

- Prepare security documentation for approval by senior management and present results of security audits

ACADEMIC ADVISING – STUDENT ADVISOR

Each school provides a student advisor(s) to help you reach your full academic potential. These representatives can assist you with: accessing other college services; developing academic plans to promote success in the event of failed subjects or a low GPA; finding equivalent credits; identifying career goals and making sound academic decisions; making decisions regarding full- and part-time studies; reviewing graduation requirements; selecting electives and options; setting up academic plans; or transferring to another program.

To view contact information for your Student Advisor, please visit:
www.durhamcollege.ca/student-experience/helping-you-succeed/academic-support-resources/academic-advising

ACADEMIC INTEGRITY

Academic integrity refers to the pursuit of scholarly activity in an open, honest and responsible manner. Acts that undermine academic integrity, such as plagiarism, cheating and misrepresentation of work, contradict Durham College's core values.

To ensure the highest academic standards, students are accountable for the work they produce, and student work must be the product of his or her efforts. Durham College has purchased a license with Turnitin.com, an online service to detect unoriginal work and citation errors.

The Academic Integrity Policy and Procedure documents (www.durhamcollege.ca/academicpolicies) provide a comprehensive explanation of Durham College's expectations regarding academic integrity.

AEGROTAT (AEG)

Aegrotat refers to a 'compassionate pass' in a course in which, due to **emergency circumstances** related to health and wellness, a student was unable to complete all of the evaluation requirements. Emergency circumstances that may warrant the designation of an Aegrotat include, but are not limited to: injury, illness and/or bereavement. Documentation supporting the request for an Aegrotat designation may be required.

The awarding of an Aegrotat credit is noted in a student's transcript as AEG and is therefore not included in the calculation of a student's grade point average. A student shall receive Aegrotat standing only once in a five year period.

Further information about Aegrotat standing can be found in the Aegrotat Policy and Procedure documents, please visit the following link: http://www.durhamcollege.ca/academicpolicies

CENTRE FOR STUDENTS WITH DISABILITIES (CSD)

The Centre for Students with Disabilities (CSD) at Durham College provides services to students with disabilities to ensure that equal access is available to all aspects of the academic environment. These services are designed in accordance with the Ontario Human Rights Code and the Accessibility for Ontarians with Disabilities Act. Our services are confidential.

Please visit the following link to view valuable information regarding the CSD:
http://durhamcollege.ca/student-experience/helping-you-succeed/centre-for-students-with-disabilities

CONTINUING EDUCATION

If you are unable to access a day-time course (timetable conflicts, wish to repeat a course, etc.) or want to get a head start on your next semester, discuss your options with your Student Advisor.

To view comprehensive information regarding Continuing Education offerings, please visit the following link: www.durhamcollege.ca/academic-schools/school-of-continuing-education

COURSE OUTLINES

For each course, a Course Outline that describes course learning outcomes, course content, learning activities, evaluation methods, timelines and support resources is available online. Please note that students are expected to download copies of their course outlines from MyCampus prior to the first class in each course.

Instructions for downloading are located on MyCampus at: /www.durhamcollege.ca/mycampus

Please visit the following link to view the Course Outlines Policy and Procedure documents:
www.durhamcollege.ca/academicpolicies

CREDIT TRANSFER INFORMATION

Durham College is dedicated to helping you build upon your previous education. If you have studied previously at Durham College or another recognized post-secondary institution, you may be eligible to receive credit for the courses you have successfully completed.

Please view the following link for credit transfer information: www.durhamcollege.ca/credittransfer

DURHAM COLLEGE MISSION, VISION AND VALUES

Our mission, vision, values were created to help ensure the success of our students, staff and faculty.

Please view our guiding principles at the following link:
www.durhamcollege.ca/about-us/corporate-links/governance/mission-vision-and-values

ESSENTIAL EMPLOYABILITY SKILLS

Essential Employability Skills (EES) are skills that, regardless of a student's program or discipline, are critical for success in the workplace, in day-to-day living, and for lifelong learning.

Please view the following link for further information:
www.tcu.gov.on.ca/pepg/audiences/colleges/progstan/essential.html

GENERAL EDUCATION (GNED)

The Ministry of Colleges and Universities requires all Ontario college students enrolled in a 2-year Ontario College Diploma or a 3-year Ontario College Advanced Diploma program to successfully complete three or more General Education (GNED) courses prior to graduation.

For more information about GNED course selection, a full listing of GNED electives (with course descriptions), and how to receive GNED credits for prior post-secondary studies, please visit the General Education website at:

www.durhamcollege.ca/academic-schools/school-of-interdisciplinary-studies-employment-services/general-education

IMPORTANT DATES

Durham College strives to keep you informed of all important dates throughout the academic year. Please review the 2014-2015 important dates that includes fee payments, web registration, add/drop, exam dates etc. You can find this information online, in the Durham College handbook and on MyCampus. Please review MyCampus for important updates and reminders on important dates.

LEARNING MANAGEMENT SYSTEM USAGE (LMS)

Professors are expected to use LMS or DC Connect to support student learning. As per the Learning Management System Usage procedure, faculty will post and reveal all marks to their students on an ongoing basis.
To view the LMS Usage Policy and Procedure, please visit the following link:
www.durhamcollege.ca/about-us/corporate-links/governance/policies

LIBRARY

The Library is here to help you succeed! Stop by for help to research a topic, complete an assignment, or when you just need a quiet place to study. You may visit the library virtually at www.durhamcollege.ca/library.
To view information regarding locations, hours, and more, please visit the following link:
www.durhamcollege.ca/student-experience/learning-spaces/library/about-the-library

MISSED FINAL EXAMINATIONS

A final examination is a discretely designed assessment administered in Week 15 of a 14 week semester. Students who, as a result of **non-emergency circumstances**, miss one or more final examinations during a single examination period may be eligible to apply to defer/reschedule the writing of these assessments.

To be eligible, students must have no less than a cumulative 1.5 GPA, apply for consideration using the appropriate forms and pay a fee. This privilege can only be used by a student once in a five-year period. External accreditation requirements, the availability of appropriate examination facilities and other constraints necessitate that not all courses will be eligible.

For more details, students should speak with their Student Advisor or review the Missed Final Examination Policy and Procedure documents at the following link:
www.durhamcollege.ca/academicpolicies

PATHWAYS TO DEGREES

Continue your post-secondary journey and leverage your Durham College education to earn additional credentials. To learn how you can further your education, visit www.durhamcollege.ca/pathways or check out the Durham College Transfer Guide at www.durhamcollege.ca/transferguide.
Additional information regarding transferring between institutions in Ontario can be found at: www.ontransfer.ca.

PRIOR LEARNING ASSESSMENT & RECOGNITION (PLAR)

Prior Learning Assessment and Recognition (PLAR) is the process you can use to gain college credit(s) for learning and skills acquired through previous experiences. This may include workplace training, life experiences, self-directed study, community work, travel, hobbies and military service. By using the PLAR process, you may be able to complete a college certificate or diploma program in less time.
Please view the following link for PLAR information: www.durhamcollege.ca/wp-content/uploads/plar.pdf

REQUIREMENTS FOR PROMOTION

Evaluation and Promotion…

Academic courses are evaluated using a variety of methods such as tests, essays, labs, written or verbal assignments, in-process activities, group work and/or final examinations. The evaluation criteria for each course are noted in its course outline. Students are advised to familiarize themselves with these criteria early in the semester.
Please refer to the Grading and Promotion Policy and Procedures documents (www.durhamcollege.ca/academicpolicies) for a complete overview of grading and promotion practices.

Academic Probation…

Students who are not progressing satisfactorily according to criteria published in their respective program guides may be placed on academic probation, at the discretion of the school Dean or designate. Such students may be allowed to continue their studies on a Letter of Permission (an academic student contract) which will specify conditions which must be met to continue in their programs. Students who do not meet the conditions of their academic probation may be required to withdraw from full-time studies.

SCHOLARSHIPS, BURSARIES AND AWARDS

The Financial Aid and Awards office provides students with options to help fund their educational costs. To view valuable information, please visit the Financial Aid and Awards Web Site.

STUDENT ACADEMIC LEARNING SERVICES (SALS)

The Student Academic Learning Services Centre helps Durham College students to achieve their academic goals. Academic supports include: peer tutoring, learning skills services, writing skills services, English language services, and subject specific supports for math, science, and business. Please visit the following link to view valuable information regarding SALS including how to register for 24/7 online access to SALS academic resources:
http://durhamcollege.ca/student-experience/helping-you-succeed/student-academic-learning-services-sals

STUDENT COMMUNICATIONS

Durham College is committed to communicating important information to you. Please view the following link to reference a comprehensive chart indicating specific vehicles. For example, social media, DC website, DC Mail, MyCampus, DC Connect, and more:
www.durhamcollege.ca/wp-content/uploads/DCCares_StudentMatrix_v5.pdf

STUDENT RIGHTS AND RESPONSIBILITIES

A policy and procedure is in place which articulates the rights and responsibilities of students at Durham College, and provides a framework for addressing non-academic misconduct by students.

To view the Student Rights and Responsibilities Policy and procedure, please visit the following link:
www.durhamcollege.ca/academicpolicies