

Computer Security and Investigations



Program Locations:	Peterborough
Program Code:	CSI
Co-ordinator:	Blair Brown
Credential:	Ontario College Advanced Diploma
Start Dates:	September 04, 2012 - January 07, 2013
Tuition Fees:	\$3,299.20 per semester. Tuition and fees subject to change.

The Computer Security and Investigations program is designed to provide you with the necessary knowledge and skills to take a leadership role in the protection and security of information technology.

Program Highlights

The Computer Security and Investigations program is designed to provide you with the necessary knowledge and skills to take a leadership role in the protection and security of information technology. Your classes are regularly reviewed and improved to be the most current subjects demanded by the industry, such as:

- Advanced Ethical Hacking
- Threat and Risk Analysis
- Information Security
- Advanced Computer Forensics
- Internet and Hacking Investigations
- CISCO Network Design and Management
- Network Security
- Criminology
- Justice Studies

In addition to these cutting edge subjects, you will also learn how to develop systems, procedures, and human resources to manage the risks associated with information technology - and be capable of providing technical assistance to prevent, investigate, and protect individuals and organizations from cyber-crime. Your studies will be from a security management and law enforcement perspective, with emphasis placed on both the technological and management skills required to implement information technology security, and the investigative skills necessary to respond appropriately to breaches of security.

You will have the added benefit of courses in law, justice, and criminology, taking advantage of Fleming College's reputation and experience in these fields, in addition to obtaining the technical training you need to function as a technological consultant. In this three-year program, the final sixth semester is an applied project or co-operative field placement in partnership with business, industry, a law enforcement agency, or government department.

Why Choose Fleming

Fleming has a well-known track record of producing talented graduates in both the Applied Computing and Engineering Science, and the Law and Justice fields. As such, you will acquire the best we have to offer--in a new, winning combination that will put you on the road to success as an in-demand computer security specialist.

There are no other programs like this in Ontario. The program will provide you with the knowledge and skills to prepare you for industry certification in both the computer forensics and networking disciplines. As you progress through the program you will gain the skills required to become industry certified in a number of areas, including:

- CCNA – Cisco Certified Network Architect
- CCE – Certified Computer Examiner
- Security+
- Network+
- A+
- Linux+
- MCSE – Microsoft Certified System Engineer
- CISSP – Certified Information Systems Security Professional (student level qualification)
- CEH - Certified Ethical Hacker
- EnCE - Encase Certified Examiner

With your diploma, and these top certifications, you will demonstrate your abilities and value to the industry, gaining you the employment advantage.

Work Experience

In your final semester, you will work on an intensive team project or co-operative field placement. Each student will contribute specialized knowledge, learned in his or her program of study, to the solution of a real world technological problem posed by a sponsoring business or organization. Recent projects include:

- Co-operative placements within financial and forensic firms, working real cases
- Co-operative placements within corporate security departments and information security service providers
- Security and penetration testing of a large Internet Service Provider
- Forensic analysis and creation of standards for a security corporation
- Development of a Linux based Darknet and Intrusion Detection system for a professional penetration testing company
- Development and field deployment of a computer network Intrusion Detection System for a managed security service company to support large commercial clients

This applied project or co-operative field placement will enhance problem-solving skills, applied industry knowledge, and the ability to work as part of a team. You'll also learn critical workplace skills such as time management, how to map a critical path, and presentation skills. Since you may be working on sophisticated developmental or research based work, sponsors will often use the project as a testing ground and recruitment opportunity.

Is this You?

- excellent oral and written communication skills
- good problem solving skills
- creative and analytical thinking skills
- previous computing experience
- able to keep a cool head in a crisis
- research and investigative skills and interest
- desire to learn and be challenged

- strong time management skills

Career Opportunities

Career opportunities are available in both public and private sector organizations. Job titles include:

- Information Technology Security Analyst
- Information Security Administrator
- Computer Security Consultant
- Investigator
- Network Security Specialist
- Computer Forensics Examiner
- Digital Investigative Specialist

Starting salaries for many positions are \$40,000 to \$60,000. Industry surveys identify that IT security professionals, with the security skills you will acquire, consistently earn higher income than others in the industry.

Minimum Admission Requirements

OSSD with the majority of credits at the College (C) and Open (O) level, including:

- 2 College (C) English courses (Grade 11 or Grade 12)
- 2 College (C) Math courses (Grade 11 or Grade 12)

When (C) is the minimum course level for admission, (U) or (U/C) courses are also accepted.

Mature Students

If you are 19 years of age or older before classes start, and you do not possess an OSSD, you can write the Canadian Adult Achievement Test to assess your eligibility for admission. Additional testing or academic upgrading may be necessary to meet specific course requirements for this program.

Advanced Standing

Do you have another college diploma, or have you completed other technology courses at another college or university? You may be eligible for advanced standing entry to the Computer Security and Investigations program. With this fast track option, you can quickly complete the program and become qualified to enter the field of computer security. Contact the program coordinator to find out how you can take advantage of this opportunity.

Transfer Agreements

We are committed to providing students and graduates with flexible options to get maximum recognition of their college studies. Through joint programs and transfer agreements with the following universities, you can apply the learning you acquire at Fleming College to earn a related degree in less time, and at less cost.

- Laurentian University
- University of Ontario Institute of Technology

Curriculum for Computer Security and Investigations

Semester 1

Code	Course Name	Hours
COMP 191	Computer Hardware	45
LAWS 245	Introduction to Canadian Justice for Legal Professions	45
COMP 482	Introduction to Cyber Trends and Digital Evidence	45
MATH 108	Mathematics for Computer Security Investigations	60
COMP 86	Software Fundamentals	60
COMM 32	Technical Communications	37

Semester 2

Code	Course Name	Hours
COMP 497	Concepts of Information Security and Risk Management	45
LAWS 18	Criminology	45
LAWS 84	Cyber Law	45
COMP 53	Network Fundamentals	60
COMP 91	Operating Systems I	45
COMP 234	PERL	45
ORGB 13	Developing Effective Teams	45

Semester 3

Code	Course Name	Hours
COMP 13	Computer and Network Security	45
COMP 38	Emergency Management & Operational Security	45
COMP 51	Internet Investigations	45
ELCT 20	Managing Technical Projects	45
COMP 75	Operating Systems II	45
COMP 371	Routing Protocols and Concepts	45
GENED	General Education Elective	

Semester 4

Code	Course Name	Hours
COMP 92	Accessing the WAN	45
LAWS 17	Criminal Procedures	45
COMP 33	Digital Investigation	45
COMP 43	Info Management & Cryptography	45
COMP 265	Intro to Pentesting & Intrusion Analysis	45
COMP 70	LAN Switching and Wireless	45

Semester 5

Code	Course Name	Hours
COMP 3	Advanced Investigations	45
COMP 357	Advanced Pentesting	45
COMP 20	Computer Forensics	45
COMP 232	Firewalls and Intrusion Detection	45
COMP 85	Security Architecture Data Management	45
GNED 42	Working With Business and Industry	45

Semester 6

Code	Course Name	Hours
APST 11	Applied Project - CSI	350

Every attempt is made to ensure the accuracy of the information on our website and in our publications. The College reserves the right to modify or cancel any course, program, fee, timetable, or campus location at any time.