

Welcome to  
Co-operative Education at  
the College of the North  
Atlantic

# What is Co-operative Education?

**Simply put: Co-operative Education is a form of Work-Integrated Learning (WIL) that alternates paid work term semesters with academic semesters to allow students to incrementally gain and apply skill development.**

**86% of all programs at the College of the North Atlantic have some form of WIL as part of the formal structure.**

**Co-op, however, is the most comprehensive as students graduate with:**

- **12 – 48 weeks of practical, program related experience**
- **Remuneration which supports their academic and financial needs**
- **Opportunities to develop their own learning objects**
- **Opportunities to provide support and completion activities for industry projects**
- **Have work terms supervised by employers and monitored by Co-op Coordinators at the College**
- **Enhance their academic knowledge by applying work term learning to their studies**

# What Does Co-op Involve?

- **Co-op allows students to enhance their education by working on real life problems and being assigned the same responsibilities and duties as regular employees**
- **Students complete daily tasks as assigned but they are also required to complete a technical report based on a project they are working on throughout their work term**
- **Employers also evaluate the student as part of their grade mid-way through and at the end of their work term**

# How can the Co-op Office help you?

- Support employers with the complete application and competition process
- Identify programs that would be a good fit for their needs
- Guide students on developing their learning objectives and completing their report
- Coach students on work place processes and expectations
- Support employers to resolve expectations within the workplace
- Provide a regular intake of student employers
- Provide possible funding support to employers
- Refer graduates to possible graduate employment opportunities

# Student Support

Students participating in cooperative education benefit from:

- **A well-rounded education, enriched by practical application of classroom learning;**
- **Opportunities to gain relevant employment skills and realistic expectations of the work force before graduation;**
- **Opportunities to test and gain broader understanding of career options, often in a variety of employment settings;**
- **Maturity, self-esteem, confidence and skill development as members of the work force**
- **Documented practical experience, job search skills and a network of contacts upon graduation;**
- **Financial remuneration which helps to defray educational costs.**

# Employer Benefits

**By supporting Co-operative Education, employers can realize many benefits, including:**

- **Access to students willing and able to undertake special projects and task;**
- **Access to students year-round who have a fresh perspective to offer employers;**
- **Access to a student labour pool who can help address staffing needs. In times of high work loads and vacation, co-op students provide needed assistance to employers without requiring a long term commitment;**
- **A means of evaluating future employees in the workplace to ensure they are a good fit.**

# What Program are Co-op?

The College currently has 12 Program that have Co-op work terms as part of the academic requirements. This includes:

- **Programmer Analyst (Business) – 3 work terms**
- **Chemical Process Engineering Technology – 2 work terms**
- **Civil Engineering Technology – 1 work term**
- **Computing Systems Engineering Technology – 2 work terms**
- **Electrical Engineering Technology (Power and Controls) – 2 work terms**
- **Electronic Systems Engineering Technology – 1 work term**



# What Program are Co-op?

- **Environmental Engineering Technology – 1 work term**
- **Geomatics/Surveying Engineering Technology – 2 work terms**
- **Industrial Engineering Technology – 3 work terms**
- **Mechanical (Manufacturing) Engineering Technology – 2 work terms**
- **Petroleum Engineering Technology – 1 work term**
- **Safety Engineering Technology (Post Diploma) – 1 work term**

# What Can a Co-op Student do for you?

**We want to ensure that the c-op experience is a rewarding and value added experience for both the student and the employer. To achieve this, students are able to provide meaningful work such as:**

- **Programmer Analyst (Business)** –The program’s main emphasis is on the design and development of a variety of business-oriented applications. Student are able to complete projects in:
  - Database design and programming,
  - Traditional and object-oriented system development life cycles,
  - Web application development

- **Chemical Process Engineering Technology** –The program covers safe work practices, process operations, chemical engineering principles and regulatory processes, process stream analysis, instrumentation and process control. Students can:
  - Do environmental impact assessments and environmental audits, decommission facilities and do site reclamation work
  - Prepare cost estimates and construction schedules for production facilities
  - Assist in the design of new processes and production plants
  - Evaluate the economic and technical feasibility of modifying, replacing or installing new plant equipment
  - Prepare process and instrument drawings
  - Design and implement corrosion management programs for pressure vessels and pipelines

- **Civil Engineering Technology** – The field of civil design and construction plays a central role in the economic viability of many industries and the province as a whole. Tasks for Municipal Employers could include:
  - Conduct regular site inspections (of buildings, water, sewer, etc.)
  - Review inspector reports
  - Use measurements and locations to estimate costs for contractors (using Excel)
  - Determine best solutions to problems (e.g., slopes, flooding, etc.)
  - Surveying
  - AutoCad and Civil 3D
  - Water, concrete and soil sampling/ testing in lab and field

- **Computing Systems Engineering Technology** – A combination of programming theory and practice, networking, and electronics ensures the graduate will be prepared to work in the emerging fields of cloud computing and mobile device application development. They will be able to complete projects for you such as:
  - Electronic Troubleshooting
  - Electronic Fabrication and Assembly
  - Network Terminations
  - Programming using Java but can easily adapt to other languages
  - Router, Switch, and IPv4 Configuration
  - Mobile device programming
  - Database design
  - Web programming

- **Electrical Engineering Technology (Power and Controls)** - Here the emphasis is on power systems, control systems and electrical design. This can apply to installation, operation and maintenance activities. Some work term activities include:
  - Review and design electrical engineering designs
  - Test Electrical Motors and Controls
  - Install electrical equipment and wiring
  - Develop maintenance schedules, SAP's, etc
  - Complete costing, material, bidding lists and document

- **Electronic Systems Engineering Technology** – Focuses on planning, designing, commissioning, servicing, troubleshooting, and decommissioning electronic systems. Students are training to be able to:
  - Assemble cables and antennas
  - Program, test, inspect, and troubleshoot radio systems, repeaters, pagers, security cameras, transmitters, etc.
  - Solder various materials (filters, wires, cables, etc.)
  - Inventory Control and waste reduction
  - Install, troubleshoot and repair electronics equipment

- **Environmental Engineering Technology** –Students have advanced skills in the use of environmental sampling, monitoring and testing equipment; data analysis; and information technology tools. They have the ability to manage environmental projects from planning through to implementation and the maintenance phase. Students will be able to:
  - Conduct environmental sampling
  - Record and analyze data
  - Monitor and test equipment
  - Research environmental impact of proposed projects
  - Perform quality control checks
  - Determine best practices for cleaning up sites



- **Geomatics/Surveying Engineering Technology** – This program is designed to train graduates who will become the senior field members of various survey teams or supervisors in digital data management, analysis and presentation. Students will be exposed to theory in the classroom as well as considerable field and office experience during labs, field camps and work terms where they will be able to apply skills in
  - GIS (computerized Geographical Information Systems) analysis and Global Positioning Systems (GPS)
  - Satellite control positioning systems
  - Aerial photography and map design
  - Cadastral and construction surveying (land and legal)
  - Remote sensing and image analysis

- **Industrial Engineering Technology** –IET's rely on strong technical ability, business judgment, and people skills to improve safety, quality, and productivity in the production and service sectors. This unique combination of skills makes student attractive to employers in all industries who are interested in realising efficiencies. Students will be able to complete:
  - 5S and Lean design and implementation
  - Plant Layout analysis and implementation
  - Production Planning
  - Quality Control and Assurance
  - Development of maintenance plans

- **Mechanical (Manufacturing) Engineering Technology** –Mechanical Engineering Technologists, specializing in manufacturing, are proficient in the specification, implementation, operation, maintenance and supervision of manufacturing systems and personnel. The knowledge of core mechanical engineering principles, above average problem-solving ability, and superior "hands-on" skills also make these graduates well suited to employment in related industries.
  - Design, fabrication and assembly using advanced and hands on manufacturing techniques
  - Development of manufacturing process efficiency studies, layouts and waste reduction procedures
  - Engineering Graphics through various CADD based programs
  - Generalized engineering support
  - Project management and implementation

- **Petroleum Engineering Technology** – The three year CTAB Accredited Petroleum Engineering Technology (Co-op) Diploma is designed to train technologists for aspects of the oil and gas industry and is supported by the increased interest in sustainable methods of further enhancing science and technology to develop these reservoirs.
  - Geology - constructing subsurface maps and cross-sections from well log data, and supervising geological aspects of wellsite operations
  - Well operations - preparing drilling and workover programs, measuring well log information and obtaining core data, supervising drilling and field servicing operations
  - Reservoir studies - calculating hydrocarbon reserves, analyzing waterflood performance and other secondary recovery operations, and evaluating economic viability
  - Production operations - designing equipment requirements for producing wells and batteries (field stations), planning and conducting fracturing and other stimulation operations, and supervising field production operations
  - Regulatory compliance - monitoring compliance with legislated and regulatory requirements
  - Occupational health and safety or environmental programs - implementing and monitoring programs

- **Safety Engineering Technology (Post Diploma)** – Progressive companies and organizations are constantly looking for ways in which they can reduce costs and become more competitive. The Safety Engineering Technology (Post Diploma) Co-op program utilizes a combination of engineering, physical and behavioural sciences to reduce and eliminate losses.
  - Develop and implement programs, systems, procedures and techniques to reduce the losses associated with incidents and occupational disease in industry, government, health care and the construction and services sector.
  - Work cooperatively within a safety project management team to design and implement safety management principle and applications that address predefined objectives.
  - Design and conduct exercises for various levels of training for safety engineering planners and coordinators.
  - Apply health and wellness principles and techniques to the workplace.
  - Demonstrate applied safety fundamentals and adhere to workplace safety law and ethics.

# Not sure which program would fit your needs?

Feel free to discuss your needs with anyone in the Co-op Office. We will be able to determine which program would be a good fit.

# Funding

**There are a number of funding options that employers may seek to help support co-op student work terms**

- **SECPAP Funding is co-ordinated by the College by a grant from AES. Employers operating in the province, can apply for:**
  - Wage Subsidy (50%) for SME's with 100 or less employees
  - Wage Support (Minimum Wage) for non-profit organization
  - Other restrictions may apply

**Employers looking to hire Graduates from Any program or post-secondary institution in the province, may also qualify for funding from the *Job Connection Program***

# Federal Student Work Integrated Learning Program (FSWILP)

- **Employers may qualify for funding up to \$7000**
- **Funding is available from:**
  - **EcoCanada**
  - **BioTalent**
  - **Mining Industry HR**
  - **Information Technology Association of Canada**
  - **Aerospace and Aviation Council**
  - **Information and Communications Technology Council**
  - **MaRS Discovery District**
  - **Electricity Human Resources Canada**
  - **Toronto Financial Services Alliance**



# Academic Advancement

**Upon graduation, many of our students will continue their academic advancement by enrolling in educational programs such as:**

- **Bachelor of Technology (1 year at MUN)**
- **Bachelor of Engineering (Lakehead, Uvic, UNB, CBU, Purdue, etc.)**
- **Safety Engineering Post-Diploma (1 year at the College)**
- **Environmental Engineering Technology – Advanced Diploma (1 year at the College)**

# Student Highlights

- Regularly win Provincial and National Skills Competitions in: Mechatronics, Instrumentation, Mechanical CADD Design,
- Team members for winning Robotics and Technical Competitions (SpaceX)
- Entrepreneurs (Jack Axes, etc)
- Single Hill Star Design winner (Manufacturing)
- Project presenters at national conferences (CICAN,
- High Graduate Employment Rate

# Contact Us!

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If you have any questions please do not hesitate to contact anyone in the Co-operative Education Department.