

Chemical Engineering Technology

COOPERATIVE EDUCATION | THREE-YEAR ADVANCED DIPLOMA PROGRAM

Co-op Format:

Sept-Dec	Jan-Apr	May-Aug	Sept-Dec	Jan-Apr	May-Aug	Sept-Dec	Jan-Apr	May-Aug	Sept-Dec	Jan-Apr
Semester 1	Semester 2	Vacation	Semester 3	Semester 4	Work Term 1	Semester 5	Work Term 2	Work Term 3	Work Term 4	Semester 6

Program of Studies:

SEMESTER 1

General Chemistry 1
 Health and Safety In Our Environment
 Physics 1
 Intro to Career Education
 Mathematics
 Communications

SEMESTER 3

Chemical Plant Operations
 Chemical Engineering 1
 Analytical Chemistry 1
 Mathematics
 Organic Chemistry 1

SEMESTER 5

Environmental and Biotechnology
 Process Engineering
 Organic Chemistry 2
 Instrumental Analysis 1
 Law and Ethics
 Lab and Process Automation 1

SEMESTER 2

General Chemistry 2
 Mathematics
 Statistics
 Engineering Skills
 General Education
 Elective 1

SEMESTER 4

Analytical Chemistry 2
 Chemical Engineering 2
 Design of Experiments
 Quality Assurance
 General Education
 Elective 2

SEMESTER 6

Instrumental Analysis 2
 Computer Apps and PLCs
 Chemical Engineering 3
 Industrial Materials and Synthesis
 Capstone Project – Chemical



Julie Farnand, Co-op Specialist

Mohawk College, P.O. Box 2034, Hamilton, Ontario L8N 3T2

Tel: 905-575-2163 | Fax: 905-575-2359

julie.farnand@mohawkcollege.ca

Work Term Capabilities:

(which do not reflect individual experiences and exposures)

Work Term 1

- fundamental material balances
- gravimetric analysis
- titrimetric analysis
- fluid flow analysis
- heat transfer analysis
- pH measurements
- spectrophotometric analysis (AA,UV-VIS)
- water hardness testing
- material hardness testing
- material and energy balances
- chemical engineering principles
- kinetic analysis
- Project management concepts
- Quality assurance concepts
- ISO concepts
- basic electronic and electrical design
- small scale glassware use (distillation, extractions, drying, filtrations)
- instrument use (thermocouples, refractive index, melting point)
- analytical methods of analysis (redox, chromatography, acid-base normality, gravimetric analysis, autotitration)

Work Terms 2, 3 and 4

- P.C. data acquisition and control
- law and ethics concepts
- Excel / macro programming
- sensor calibration and diagnostics
- analytical methods of analysis
- small scale glassware operations
- basic organic synthesis and analysis
- instrumental methods of analysis (spectroscopy - AA, UV, F.T.IR-, GC/MS, HPLC, NMR)

Salary Range

	<u>Work Term 1</u>	<u>Work Term 2</u>	<u>Work Term 3</u>	<u>Work Term 4</u>
Range	\$11.50-27.82	\$11.50-24.26	\$11.50-27.82	\$11.50-21.88
Average	\$15.51	\$16.38	\$15.51	\$16.87