MECHANICAL ENGINEERING TECHNOLOGY
&
QUALITY ENGINEERING TECHNICIAN - NDE

STUDENT HANDBOOK

For
Students in Programs in:

529 Mechanical Engineering Technology
439 Quality Engineering Technician – NDE
436 Quality Engineering Technician – NDE (Co-op)

30 September for
FALL 2013
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WELCOME FROM FACULTY AND STAFF

This handbook is to provide guidance and information for students. Every effort is made to keep this handbook accurate and timely. Prospective students should however, check with the School of Mechanical Engineering Technology and NDE for details regarding admission requirements, enrolment limitations, co-operative education, and the program of studies for the various programs offered by the school. For more information visit our website at www.mohawkcollege.ca

Information Contacts
For general information about –

Mohawk College (905) 575-1212
Admissions
Post-Secondary ext 2415
Continuing Education ext 2422
Counselling Department ext 2211
Disability Services ext 2389
Financial Aid & Awards ext 2133
Mohawk Job Centre
Cooperative Education ext 2167
Student & Graduate Employment Service ext 2167

For specific information about –

Mechanical Engineering Technology (905) 575-1212 ext 3165
Mr. Dave Buryta
Ms. Doris Clayton (905) 575-1212 ext 3465

Quality Engineering Technician – Non-Destructive Evaluation (NDE) (905) 387-1655 ext 222
Ms. Sharon Bond
Mr. Brad Bowman (905) 575-1212 ext 3130
Mohawk College has grown to be one of the great Canadian community colleges. It began with the establishment of the Provincial Institute of Textiles (PIT) in 1947, which in turn became the Hamilton Institute of Technology (HIT) in 1957. Ten years later, in 1967, the HIT was incorporated as the newly established Mohawk College of Applied Arts and Technology. The College supports campuses and education centres in Brantford, Hamilton, and Stoney Creek.

A great variety of full-time, post-secondary certificate and diploma programs together with a wide range of part-time courses and programs, leading to either a certificate or college diploma, are possible in the following areas:

- Business
- Continuing Education
- Engineering Technology
- Health Sciences
- Human Services
- Interdisciplinary Studies
- Media, Graphics & Communication
- Skilled Trades and Apprenticeships

Many of the programs are co-operative in nature, offering students the opportunity to experience the real workplace environment and gain valuable on-the-job training. The college also has many partnerships in training and technology to make us more valuable to the students and the community at large.

Mohawk College serves the communities throughout Southern Ontario, offering over 100 full-time programs and more than 1,000 Continuing Education courses. There are currently 10,000 full-time post-secondary students enrolled at Mohawk College and 40,000 continuing education students. Mohawk College is the largest in-school apprenticeship trainer in the province, with more than 3,000 apprentices registered in skilled trades programs. There are close to 800 full-time employees, including over 400 faculty, and an alumni association of more than 72,000 members. There is also a 342 bed on-campus student residence.

The Accessible Learning Services staff develops ways to eliminate barriers and facilitates access for students at all campuses that may have learning or physical disability, visual or hearing impairment, mobility impairment, or other disability. Student self-identification well in advance of course or program start-up is required to effectively evaluate, plan, co-ordinate, and implement support service. For more information please contact the Accessible Learning Services.

Make Mohawk College your choice…and if you’re not sure, ask a graduate!

Visit the College’s website at www.mohawkcollege.ca.
SCHOOL OF MECHANICAL ENGINEERING TECHNOLOGY & QUALITY ENGINEERING TECHNICIAN - NDE

The School of Mechanical and NDE is a part of the Faculty of Engineering Technology at Mohawk College. We offer full-time post-secondary diploma and certificate programs in various disciplines.

MECHANICAL ENGINEERING TECHNOLOGY
This Nationally Accredited Program through the Canadian Council of Technicians and Technologists provides a solid background in applications and theory in mechanical engineering, including design, manufacturing, automation and robotics, energy conversion and transmission, and engineering materials.

QUALITY ENGINEERING TECHNICIAN - NON DESTRUCTIVE EVALUATION (NDE)
This Program through our partner the Canadian Institute for NDE (CINDE) and Nationally Accepted by Natural Resources Canada (NRCan) explores the theoretical and practical on-site non-destructive inspection and testing techniques that enable examination of parts, equipment or materials in a way that does not impair its usefulness.
ADMINISTRATION, FACULTY & SUPPORT STAFF – CHEMICAL

DEAN                  Tony Thoma, B.Sc., BBA, MBA, P. Eng.
ASSOCIATE DEAN        Bill Brimley, B.A.Sc., M.A.Sc., Ph.D., P. Eng.
ADMIN ASST            Linda Wilson

FULL TIME FACULTY **(ADD All Degrees Designations)**
  Brad Bowman
  David Buryta
  Louie D’Orazio
  Doris Clayton
  Robert Gerritsen
  Bruce Johnston  B.A., B. ED., OCT
  Sam Maga
  Sevastian Irimie
  Sharon Bond (CINDE)
  John Moore (CINDE)

PART TIME FACULTY **(ADD All Degrees Designations)**
  Richard Borger
  Sabatino Parisse
  George Miltenburg

JOB CENTRE/COOPERATIVE EDUCATION

Dean of Interdisciplinary Studies        Jim Vanderveken
Employment Consultant (Mechanical.NDE)    Karen Brown
POST-SECONDARY DIPLOMA AND CERTIFICATE PROGRAMS

The School of Mechanical & NDE offers both two-year diploma programs (Technician), and three-year advanced diploma program (Technology) leading to a Degree. We also offer a one-year certificate program in Engineering Foundations Programs.

The Technology program offered

Mechanical Engineering Technology - 529

The Technician program offered:

Quality Engineering Technician - NDE – 436/439

The Certificate program offered

Pre-Technology (Mechanical Engineering / Non Destructive Evaluation Foundations) Certificate Program - 344

Students must meet the minimum requirement of eight months work experience on co-op in order to graduate with a Co-op Diploma. Students within each discipline must compete for the available co-op jobs, and go through an interview and selection process. There is a service fee for co-operative education. The department is assisted by the Job Centre and Co-operative Education whose sole purpose is to seek out positions, assist the students in getting placed, and evaluate their performance in the field. For more information on co-op please see the Co-operative Education section in this handbook or see Co-operative Education on the college website.
529 MECHANICAL ENGINEERING TECHNOLOGY
PROGRAM OF STUDIES (POS)
Please refer to the appropriate Program website for your most recent POS.

<table>
<thead>
<tr>
<th>Old PLA Codes</th>
<th>Mohawk College Program of Studies</th>
<th>New PLA Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Includes prerequisites and/or equivalents</td>
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</table>

| 529 13-A Mechanical Engineering Technology | Status-A | Req. Grad GPA: 60 |

Sem 1  Semester Promotion GPA: 60
Core Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Lec</th>
<th>Lab</th>
<th>Type</th>
<th>Grade Points</th>
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<tbody>
<tr>
<td>CMEH 10046</td>
<td>Engineering Drawing I</td>
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<td>50</td>
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<td>CMEH 10046</td>
<td>Engineering Drawing I Lab</td>
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<td>60</td>
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<tr>
<td>MENG 11330</td>
<td>Manufacturing Processes</td>
<td>4</td>
<td>50</td>
<td>1</td>
<td>N/A</td>
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<td>MENG 20020</td>
<td>Mechanical Basic Algebra</td>
<td>4</td>
<td>60</td>
<td>1</td>
<td>Y/A</td>
<td>14.00</td>
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<tr>
<td>MENG 20030</td>
<td>Metrology Lecture</td>
<td>2</td>
<td>60</td>
<td>1</td>
<td>N/A</td>
<td>14.00</td>
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<td>MENG 20030</td>
<td>Metrology Laboratory</td>
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<td>60</td>
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<td>N/A</td>
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Option group 1: Select 1 course(s) from option list below:

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<thead>
<tr>
<th>Course Code</th>
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<th>Lec</th>
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<tr>
<td>COMH 10646</td>
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<tr>
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Promo Grade: RegEquip

Page 1 of 12  August 22-15
<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
<th>Type</th>
<th>Format</th>
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<th>Coreq/Equivalent</th>
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<tr>
<td>CADM 1066</td>
<td>Intro to Solid Modeling</td>
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<td>Lec</td>
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<td>MATH 1039</td>
<td>Mach Intro/Int-Algebra</td>
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<td>Lec</td>
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<tr>
<td>MATH 1038</td>
<td>Statistics</td>
<td>4</td>
<td>Lec</td>
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<td>Statistics</td>
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<td>MATH 1038</td>
<td>Statistics</td>
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<td>Lec</td>
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</table>

Semester Promotion GPA: 60

Core Courses
### Mohawk College Program of Studies

**529 13-A Mechanical Engineering Technology**

**Status-A Req. Grad GPA: 60**

#### Sem 2 Semester Promotion GPA: 60

**Electives**

<table>
<thead>
<tr>
<th>CRN</th>
<th>Course Title</th>
<th>Credits</th>
<th>ER</th>
<th>Type</th>
<th>Cat</th>
<th>Type</th>
<th>Min</th>
<th>Max</th>
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<tr>
<td>201430</td>
<td>General Edu 1 Option</td>
<td>2</td>
<td>Y</td>
<td>A</td>
<td>3</td>
<td>Y</td>
<td>15.00</td>
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**Promo Grade**

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<th>Value</th>
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<tbody>
<tr>
<td>A</td>
<td>4.00</td>
<td>90-100</td>
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<tr>
<td>B</td>
<td>3.00</td>
<td>80-89</td>
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<tr>
<td>C</td>
<td>2.00</td>
<td>70-79</td>
</tr>
<tr>
<td>D</td>
<td>1.00</td>
<td>60-69</td>
</tr>
<tr>
<td>F</td>
<td>0.00</td>
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<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
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<tr>
<td>-------------</td>
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<tr>
<td>CADD 201250</td>
<td>Engineering Design</td>
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<tr>
<td>CADD 10247</td>
<td>CADM 10246 Intro to CAD Mod</td>
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<td>CADD 10248</td>
<td>CADM 10245 Intro to CAD Mod</td>
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<tr>
<td>COMM 10265</td>
<td>Critical &amp; Innovative</td>
<td>2</td>
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<tr>
<td>MATH 20630</td>
<td>Differential Calculus</td>
<td>3</td>
</tr>
<tr>
<td>MATH 20635</td>
<td>Statics</td>
<td>4</td>
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</tbody>
</table>

### Core Courses

- **Engineering Design**
- **Critical & Innovative Thinking**
- **Differential Calculus**
- **Statics**

### Promo Grade Modes

- Letter Grade: A, B, C, D, F
- Credit/Pass-Fail: Credit or Pass
- Consent: Consent Required
- Credit: Credit Only

### Computer Program

- CADM 10265
- COMM 10265
- MATH 20630
- MATH 20635

### Program Requirements

- Grad GPA: 60
- Req Grad GPA: 60

### Notes

- Course descriptions and prerequisites may vary.
- Contact the program director for more information.

Run by: Brenda Wilson
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### Mohawk College Program of Studies

(includes prerequisites and/or equivalents)

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>Credit</th>
<th>Mode</th>
<th>Term</th>
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<td>Mechanical Engineering Technology</td>
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#### Sem 3  Semester Promotion GPA: 60

**Core Courses**

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<tr>
<td>INF1 1007</td>
<td>Measurement Systems Lecture</td>
<td>2</td>
<td>50</td>
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<tr>
<td>INF1 1008</td>
<td>Measurement Systems Laboratory</td>
<td>2</td>
<td>50</td>
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<td>QNL1 1303</td>
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<td>NA</td>
<td>14.00 4.00</td>
<td>56.00</td>
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</table>

#### Prerequisites:
- INF1 1007: Pre-requisite
- INF1 1008: Pre-requisite
- QNL1 1303: Pre-requisite

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August 22-13
Mohawk College Program of Studies
(includes prerequisites and/or equivalents)

529 13-A Mechanical Engineering Technology Status-A Req. Grad GPA: 60

Sem 4 Semester Promotion GPA: 60

<table>
<thead>
<tr>
<th>Code</th>
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<th>Prereq.</th>
<th>Grade Mode</th>
<th>Mode</th>
<th>Sess</th>
<th>Yr</th>
<th>Term</th>
<th>Credits</th>
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<tbody>
<tr>
<td>HMIT 10110</td>
<td>Integral Calculus 1 J 2 50 1 Y A</td>
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<td>HMIT 10110</td>
<td>Integral Calculus 1 J 2 50 1 Y A</td>
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<td>3.00</td>
<td>17.00</td>
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<td>HMIT 10111</td>
<td>Properties of Materials Lab 2 60 1 N A</td>
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<td>Properties of Materials Lab 2 60 1 N A</td>
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<td>19.00</td>
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<td>HMIT 10126</td>
<td>Strength of Materials 4 60 1 N A</td>
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<td>Strength of Materials 4 60 1 N A</td>
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<td>4.00</td>
<td>18.00</td>
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<tr>
<td>HMIT 10142</td>
<td>Dynamics 4 60 1 N A</td>
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<td>Dynamics 4 60 1 N A</td>
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<td>4.00</td>
<td>18.00</td>
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</table>
Mohawk College Program of Studies

529 13-A Mechanical Engineering Technology Status-A Req. Grad GPA: 60

Sem 4 Semester Promotion GPA: 60
Core Courses

Course Title: Automation I
Code: ECE400
Credits: 4
Grade Mode: A
Offered: Fall

Promo Grade Modes
- Credit: Grad/Undergrad
- Pass/Fail: Mixed
- Pass/Fail: Undergrad
- S/NC: Mixed

Lab
Credits: 1
Grade Mode: A
Offered: Fall

Promo Grade Modes
- Credit: Grad/Undergrad
- Pass/Fail: Mixed
- Pass/Fail: Undergrad
- S/NC: Mixed

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<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Type</th>
<th>Hours</th>
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<tbody>
<tr>
<td>CADM ME416</td>
<td>Solid Modeling</td>
<td>4</td>
<td>LEC</td>
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<td>MANU REC33</td>
<td>Process Planning</td>
<td>4</td>
<td>LEC</td>
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<td>MECN REC49</td>
<td>Thermodynamics</td>
<td>4</td>
<td>LEC</td>
<td>1:00</td>
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<td>MECN REC52</td>
<td>Machine Design I</td>
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<td>LEC</td>
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</tbody>
</table>

**Prerequisites:**
- CADM ME416: Solid Modeling
- MANU REC33: Process Planning
- MECN REC49: Thermodynamics
- MECN REC52: Machine Design I

**Core Courses:**
- Engineering Design
- Common Drive Co
- Manufacturing Pro
- Common Unive Co
- Mathematics
- Fluid Mechanics
- Integral Calculus
- Applied Mechanics
- Mechanics Of Solid
- Properties Of Solid

**Semester Promotion GPA:** 60

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### Mohawk College Program of Studies

**529 13-A  Mechanical Engineering Technology  Status-A  Req. Grad GPA: 60**

<table>
<thead>
<tr>
<th>Sem 5</th>
<th>Semester Promotion GPA: 60</th>
<th>Option group 1</th>
<th>Select 1 course(s) from option list below:</th>
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<td></td>
<td></td>
<td>INMG 10031</td>
<td>201950 Lean Manufacturing 3 50 1 N A □</td>
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<td>MATE 1071</td>
<td>201930 Advanced Metallurgy 3 60 1 N A □</td>
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<td></td>
<td></td>
<td>STEN 1550</td>
<td>201930 Automation 2 4 50 1 N A □</td>
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- **Lec**: 14.00  2.00  28.00
- **Lab**: 14.00  2.00  28.00

**Recommended Core Requirements**

- **Electrical Engineering**
- **Mechanical Engineering**

**General Education Requirements**

- **Mathematics**
- **Science**
- **Technology**

**Program Core Requirements**

- **Engineering Science**
- **Engineering Design**

**Additional Requirements**

- **Elective Courses**
- **General Education Electives**

**Promo-Grade Modes**

- **Credit-Recommended**
- **Laboratory-Recommended**

Run by: Brenda Wilson

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# Mohawk College Program of Studies

**529 13-A Mechanical Engineering Technology**  
**Status-A**  
**Req. Grad GPA: 60**

## Semester Promotion GPA: 60

### Core Courses

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Total Credits</th>
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<td>CSTM EC450</td>
<td>203120 CAM and CNC</td>
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<td>INSE 10005</td>
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**Promo Grade Modes**<br>
- D: Direct Admission<br>
- C: Credit with Warning<br>
- P: Pass-Fail Option

---

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August 22-15
<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
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</table>
Mohawk College Program of Studies  
(includes prerequisites and/or equivalents)

529 13-A  Mechanical Engineering Technology  Status-A  Req. Grad GPA: 60

<table>
<thead>
<tr>
<th>Sub-Codes</th>
<th>Course Title</th>
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# 529 Cooperative Education Schedule  
**Fall 2013**  
**Mechanical Engineering Technology** *(Summer Teaching not shown)*

<table>
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<tr>
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<tr>
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<td>Jan–Apr</td>
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<tr>
<td>Semester 1</td>
<td>Semester 2</td>
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<th>Year 3 +</th>
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<tr>
<td>Sep–Dec</td>
</tr>
<tr>
<td>Semester 5</td>
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436/439 QUALITY ENGINEERING TECHNICIAN - NDE
PROGRAM OF STUDIES (POS)

Please refer to the appropriate Program website for your most recent POS.

<table>
<thead>
<tr>
<th>Old PLA Codes</th>
<th>Mohawk College Program of Studies (includes pre-requisites and/or equivalents)</th>
<th>New PLA Codes</th>
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<td>436/439 13-A</td>
<td>Quality Eng Techn-Non Destructive Evaluation</td>
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<td>Status-A  Req. Grad GPA: 60</td>
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<td></td>
<td>Core Courses</td>
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<td>Semester Promotion GPA: 60</td>
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<table>
<thead>
<tr>
<th>Course No.</th>
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<td>CDIN 10065</td>
<td>Engineering Drawing 1</td>
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<td>NDE Mathematics</td>
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<tr>
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<td>Principles &amp; Applications: NDT</td>
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<td>NDE in Our Environment</td>
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Option group 1: Select 1 course(s) from option list below:

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## Mohawk College Program of Studies

**Sem 2  Semester Promotion GPA: 60**

### Core Courses

<table>
<thead>
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<th>Mode</th>
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<th>Total Comments</th>
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<td>Introduction To Metallurgy</td>
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<tr>
<td>MATH 10556</td>
<td>Liquid Penetran Lev 1 &amp; 2</td>
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<td>Lab</td>
<td>A</td>
<td>14.00 2.00</td>
<td>28.00</td>
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<tr>
<td>MATH 10056</td>
<td>Magnetic Particle Levels 1 &amp; 2</td>
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<td>14.00 2.00</td>
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<tr>
<td>MATH 10006</td>
<td>Codes and Standards</td>
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**Promo Grade Modes**

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August 22-13
### Mohawk College Program of Studies

#### Includes prerequisites and/or equivalents

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#### Sem 3 Semester Promotion GPA: 60

**Core Courses**

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<th>Grade</th>
<th>Mode</th>
<th>Lec</th>
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<td>NUTR 10034</td>
<td>201320 Ultrasound - Level 1</td>
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<td>NUTR 10035</td>
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<td>WILD 10033</td>
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August 20-15
Mohawk College Program of Studies
(includes prerequisites and/or equivalents)

Sem 4 Semester Promotion GPA: 60
Core Courses

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<th>Grade Mode</th>
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<td>GERM 10265</td>
<td>Critical &amp; Innovative Thinking</td>
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<td>LAW 10012</td>
<td>Law &amp; Ethics</td>
<td>3</td>
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<td>MTEC 10010</td>
<td>Radiography-Level 2</td>
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<td>MTEC 10011</td>
<td>Ultrasonics-Level 2</td>
<td>8</td>
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<td>1 A</td>
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<td>MTEC 10016</td>
<td>Predictive Maintenance Tech</td>
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Fees:
- COMM 1100 Communication
- COMM LDR Communication
- COMM LDR4 AC Communication
- COMM 12077 Common & Applied
- COMM 12093 Written Comm for

Preqs:
- COMM 1100
- COMM LDR4
- COMM 12077
- COMM 12093

Promo Grade Modes
- Credit Requirement
- Credit Requirement
- Credit Requirement

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Internship Schedule †

436 QUALITY ENGINEERING TECHNICIAN - NDE TECHNICIAN (INTERNSHIP)

† Note: Subject to change

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
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<td>Semester 1</td>
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<td>Semester 4</td>
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PROGRAM PREREQUISITES

The above course prerequisites will apply to all students enrolled in programs within the School of Mechanical and NDE. It is the responsibility of the student to be aware of these prerequisites and to make arrangements for repeating any failed courses in consultation with their academic coordinator as required.
MECHANICAL ENGINEERING STUDENT EVALUATION AND GRADING

Mohawk College uses a credit value system that supports the calculation of a weighted grade point average. Courses are assigned a number of credits based on their total course hours and these credits are multiplied by the grade obtained in the course when calculating a grade point average. In order to receive their diploma students must complete the entire program of studies and achieve a weighted GPA of at least 60%.

The grading system establishes one common passing grade level of 50% for all courses. Other grade designations which the student might encounter include the following:

- AC Attendance Complete
- AN Attendance Not Met
- AU Course Audit
- CR Credit Granted (Prior Learning Assessment)
- E Exemption Granted
- I Incomplete
- R Requirements Complete
- UW Unofficial Withdrawal

It is the responsibility of the student to be aware of various policies and procedures governing the School of Engineering Technology.

QUALITY ENGINEERING TECHNICIAN - NDE STUDENT EVALUATION AND GRADING

This program through our partner the Canadian Institute of NDE (CINDE) is nationally accepted with National Resources Canada (NRCan). In order to receive their diploma students must complete the entire program of studies with a minimum grade in each and every NDE course of 70% and 100% attendance. This meets the training requirements for qualification for certification, and enables the students to proceed with NRCan testing for each of the NDE techniques taught.

The grading system for all the other non NDE courses employs the common passing grade level of 50% for all courses. Other grade designations which the student might encounter include the following:

- AC Attendance Complete
- AN Attendance Not Met
- AU Course Audit
- CR Credit Granted (Prior Learning Assessment)
- E Exemption Granted
- I Incomplete
- R Requirements Complete
- UW Unofficial Withdrawal
It is the responsibility of the student to be aware of various policies and procedures governing the School of Engineering Technology.

HONOURS SYSTEM

There are two separate honours designations used by the College. A Dean’s Honours list is published at the end of each semester and contains the names of full-time students who have achieved an overall standing of at least 85.0% with no failing grades at the end of each academic semester. A congratulatory letter is sent to the student from the Dean and Associate Dean in each semester in which the student qualifies.

At the completion of a program of study, students who have an overall standing of at least 85% with no failing grades will qualify for Honours Graduate status. Honours Graduates are announced at Convocation and they will receive a congratulatory letter from the College along with an attachment for the diploma.

For further information on the Honours System and Student Evaluation and Grading please contact the Registration Center at (905) 575-2364.
Student Code of Conduct

Students in the School of Mechanical and NDE are expected to act in a responsible and professional manner at all times. The policies outlined below augment Mohawk College’s well-defined policies regarding classroom and laboratory behavior and academic dishonesty. These policies are outlined on the Mohawk College website at www.mohawkcollege.ca

Electronics Policies

1. Students should have their cell phones turned off or turned to vibrate mode at all times in classroom and laboratory settings. If there are circumstances which require a cell phone to be left on, students are required to inform the instructor ahead of time and respond in a respectful manner should the cell phone ring.

2. All audio and video devices, including camera cell phones, should be turned off in classroom and laboratory settings.

3. The use of laptop computers in the classroom is at the discretion of the professor. When laptop computers are being used it is expected that they are being used in an appropriate manner and for academic purposes only.

Email and College Interaction Policies

1. Students are expected to use email in an appropriate, respectful and professional manner.

2. Students are expected to check their eLearn and Mocomotion email accounts on a regular basis as this is the primary manner in which they will be contacted by Mohawk College and their professors.

3. Students who are absent from tests and/or laboratories are required to inform their professors by telephone and/or by email prior to the starting time of the test or laboratory. Students who fail to do so may forfeit the test and/or the lab.
Attendance Policy

Students in the Mechanical Engineering Technology Program are expected to attend all scheduled lecture and laboratory sessions.

Students in the Quality Engineering Technician - NDE Program must to attend 100% all scheduled lecture and laboratory sessions.

Lecture Attendance
Attendance at all scheduled lectures is expected and highly recommended. Some courses have a lecture attendance evaluation component; most courses do take attendance during lecture sessions. It is the student’s responsibility to access all material covered if they miss a lecture. If attendance is part of the course evaluation students need to show appropriate documentation for their absence not to affect their grade.

Laboratory Attendance
Laboratory attendance is mandatory in all courses that contain a laboratory component. For some courses, successful completion of the course requires complete attendance. Absence from a laboratory requires appropriate documentation. Students missing a laboratory must notify their laboratory instructor immediately. Once documentation has been established students are expected to make up a missed laboratory if at all possible.
To successfully complete the laboratory component of a course submission of all laboratory reports is required.
POLICY FOR WRITING OF TESTS

1. Each student is required to write tests at the time and place scheduled, unless alternative arrangements have been previously agreed between the student and the professor to cover exceptional circumstances. Students with special needs must follow College policy, and inform the professor of their requirements in good time for the arrangements to be made.

2. Students who become ill too close to the test time to make the above arrangements are required to do the following:

   ☏ telephone the professor at the earliest opportunity. This contact should be made before the time of the test, and no later than the next working day if the test is held in the evening. Messages left on answering machines must include the date and time of the call, the student's name, class and number.

   ✉ contact the professor as soon as possible after the illness. A doctor's note must be produced at this time.

3. Students who are prevented from attending due to last minute emergencies must contact the professor as described in the previous section. The professor will require details of the emergency situation.

4. Students who fail to appear to write a test without proceeding in accordance with the above will be considered "absentees". No re-write privileges will be allowed in these cases, and the grade for that test will be zero.

5. Writing the test at an alternative time will be allowed if the professor is satisfied that the reason is genuine, and if the student has correctly followed the above procedures. The arrangements are to be made between the professor and the student, and include the following conditions:

   ➢ tests may be scheduled in the Math Learning Centre
   ➢ the test questions may be changed;
   ➢ the method of grading of the test may be changed;
   ➢ the time, place and format of any re-scheduled test will be decided by the professor;
   ➢ the same rules of attendance apply to the re-scheduled test as to the original test;
   ➢ the decision of the professor in setting these conditions will be final.
STUDENT RULES OF CONDUCT
EXAMINATIONS AND TESTS

In this document the term "test" is intended to include both "tests" and examinations"; the term "invigilator" is meant to include any person authorized to supervise or conduct tests, that is, proctors, professors, support staff, etc.

1. Students must be aware of the College's policy on Academic Dishonesty.

2. It is the responsibility of the student to be aware of the place, starting time, and duration of all tests as well as the rules of conduct, which govern them.

3. Only eligible students and authorized invigilators are allowed access to the testing facility.

4. Students must display their student identification cards in a conspicuous place on their test station.

   Students without a valid student identification card will not be permitted to write a test. (This condition may be waived at the invigilator's discretion.)
   Students may be required to sign a test attendance record.

5. Invigilators are authorized to assign specific test stations to students.

6. Students are expected to arrive at the testing facility at least five (5) minutes before the scheduled start time of the test.

   Students will not normally be permitted to enter the testing facility unless authorized to do so by the invigilator.

7. No materials and equipment, including cell phones, computers, calculators, may be taken into the testing facility except when authorized by the invigilator and/or specified by the test paper.

   (It is the responsibility of the student to be aware of the type and nature of resources that are allowed inside the testing facility).

   Invigilators are authorized to inspect all equipment and materials used inside a testing facility and, if deemed appropriate, reset calculators.
8. Students who bring unauthorized resources into a testing facility, who assist other students, who obtain assistance from other students or any other unauthorized source, may not be permitted to complete the test. They may also be subject to further disciplinary action under the College's Academic Dishonesty Policy.

During test, students must not communicate with one another in any way.

9. Students will not be permitted access to a testing facility if a) the test has been in progress for more than thirty (30) minutes, or b), if one or more students have already left the testing facility. (Under special circumstances, the invigilator may waive this condition).

Students are not permitted to leave the testing facility during the first thirty (30) minutes of a test. If students are late for a test, they must complete their test in the remaining designated time, unless the invigilator authorizes an extension.

10. In cases of emergency, students leaving and returning to a testing facility must be accompanied by an invigilator, unless the invigilator waives this requirement.

11. Students must enter and leave a testing facility QUIETLY.

After leaving the testing facility, students must not remain in the immediate vicinity of the exit.

12. It is the student's responsibility to ensure that he or she has received the correct test paper and that the document contains the correct number of pages and questions.

Students must follow all instructions as contained in the test paper. Any changes to such instructions, if required, will be communicated by the invigilator.

13. At the conclusion of a test, all testing activity must cease. If this requirement is not observed, the invigilator may refuse to accept a student's test paper. A student must ensure that all test materials to be graded are, in fact, submitted at the end of the test and contain the student's name. An examiner is under no obligation to accept or grade test materials that a student has removed without authorization from the testing facility.

14. Alternative Testing Services provide disabled students with the opportunity to meet regular academic requirements while preserving the integrity of the testing process. Disability Services is governed by regular college policies and the Alternative Testing Service will operate in accordance with the Faculty's Rules of Conduct policy for testing, and the College's Academic Dishonesty policy. Students with disabilities are required to identify themselves to the Disability Office where the Special Needs Consultant will recommend alternative testing arrangements, where appropriate. Please refer to the alternative Test/Examination procedure for students with disabilities (available through Student Services)
SAFETY POLICY

The Associate Dean, Faculty and Support Staff of the School of Mechanical Engineering and NDE are committed to providing a safe and healthy laboratory learning environment for students, faculty and support staff. All levels of School (including students) actively support and participate in their functions related to the health and safety of both fellow employees and students.

Experimental work in laboratories is designed to minimize the risk of accidents and health hazards. However, the handling of chemicals, molten metals, glassware, grinders and other equipment in the laboratories inevitably poses some potential hazards, especially in the event of the accidental spillage, breakage, etc. Since such accidents cannot be foreseen, it is important that you protect yourself from the consequences. The basis of all your actions in a workplace is to use common sense and to think before you act. Although it is impossible to eliminate 100% of the risks, the school has developed the following practices, procedures and rules to ensure a high measure of safety to prevent accidents and injuries. The Management, Faculty, Support Staff and all students are required to fulfill their responsibilities and obligations described in this document.

General Information

Members of School of Mechanical Engineering and NDE and students will:

1. Apply the knowledge and commit to memory the practices, procedures and rules contained in this manual.

2. Know where the nearest telephone or intercom device is located.

3. Know and understand the floor plans of laboratories in School. In particular you must know the location and use of:
   a) Fire Extinguisher Information
   b) Safety Shower
   c) Eye Wash Station
   d) Electrical Shut-off
   e) Fire Exit Route
   f) Material Safety Data Sheets (MSDS)
   g) First Aid

4. Learn the WHMIS (Workplace Hazardous Materials Information System) classification system outlined in the following pages of this document. In particular you must read, understand and follow the MSDSs, labels, hazards, safe handling procedures and emergency action for classes A, B, C, D<sup>1</sup> and D<sup>2</sup>, E and F.

5. Use the WHMIS classification and labelling system and MSDSs in all laboratories.

6. Be prepared to take appropriate action in an emergency.
SAFETY RULES

1. General Rules

2. The following rules, practices and procedures are common for all of the laboratories in the School

3. Back packs, school bags and coats are NOT ALLOWED in the laboratory. All personal belongings that are not pertinent to the lab must be left in a locker.

4. Protective Clothing
   a. In order to have adequate protection of legs and feet we require that pants (ankle-length) and closed shoes, without high heels, be worn in all laboratories. NDE students must wear steel toe shoes.
   b. Hats and ball caps are NOT permitted in department laboratories.
   c. The use of earphones or ear buds are not permitted in department laboratories

5. Eye Protection
   a. All students must purchase and wear a pair of CSA (Canadian Standards Association), and department, approved safety goggles or Department approved safety glasses. These will be required for experimental work as directed by the faculty member in charge of the laboratory session. If you wear prescription glasses, you must wear the approved safety goggles. Approved safety goggles and safety glasses are available from the Fennell Campus Bookstore.
   b. No contact lenses are allowed in the laboratory. Students and faculty with contact lenses will be required to wear corrective glasses and safety goggles or safety glasses over their prescription glasses.
   c. People wearing corrective glasses must wear approved safety goggles or safety glasses at all times.
   d. Some experiments require the use of face shields. These will be supplied by the Department of Chemical and Environmental Technology.
   e. Eye protection must be worn at all times in a laboratory even when non-laboratory work is being performed. This includes time inside and outside regular scheduled laboratory time, regular class time (including if the laboratory is used as a lecture room) and would, for instance, still apply for all computer interfacing laboratories, or if a laboratory over-ran its normal time, or if technical report or project work was being performed. (STUDENTS WHO DO NOT COMPLY WITH THIS RULING WILL BE TOLD TO LEAVE THE LABORATORY.)

6. Air Lines
a. **The air lines in all laboratories must never be used to dry glassware.** These lines contain oil and/or greases, which will contaminate your glassware and analysis. More importantly, serious personal injury could occur if the glassware fractured.

7. **Fire Alarms**
   a. The Fire Alarm is a single stage alarm which means that when the alarm sounds evacuation of the building is required. Leave the laboratory in a safe state by turning off all burners and other equipment. Close all supply taps at the central shut off station near the doors and shut off the electrical supply. Go quickly and calmly to the nearest exit and leave the building by the most direct route. Do NOT use the elevator. Take up a position outside and away from the building. Remain outside or in a sheltered location until an All Clear is given by Emergency Officials, Security or Fire Wardens.

b. **If you discover a fire:**
   Evacuate persons in immediate danger and close the door if possible. Go to the nearest fire alarm station and sound the alarm. Small fires may be smothered with an inverted beaker or damp paper towels. Fire extinguishers are located in the laboratories. To use the fire extinguisher, take it down, pull the safety pin and point the nozzle at the base of the fire from about three arm lengths away. Squeeze the handle and direct the flow of gas towards the base of the fire. If the fire is not easily put out within a few seconds, leave the laboratory and report the fire to security at ext. 55 or call 911. Never put yourself in danger!

c. **Lockdown Procedures:**
   An internal or external lockdown will be ordered upon identification or notification of a threatening situation. The lockdown will be communicated by a pre-recorded message played over the building speaker system. In the laboratory turn off all burners and other equipment and close any supply taps. Secure doors, turn out lights and remain quiet and out of sight. The end of a lockdown situation will be communicated by a recorded ‘all clear’ announcement.

8. **Electrical Equipment.**
   a) Inspect the apparatus to be sure wires and other electrical components are not frayed, loose or broken.
   b) The bench top area on which the apparatus will be used must be dry.
   c) All electrical heating devices must be in an area free of flammable liquids, vapours or open containers of flammable liquids.
   d) Turn power switches on the apparatus to the **OFF** position before plugging into an outlet.
   e) No electrical device can be operated with wet hands.
   f) Do not attempt to repair an electrical device without approval of the technologist. Replace a burned-out fuse with a proper fuse. If a fuse
burns out find the cause. **Never** replace a fuse with a penny or a nail. **Never** use an oversized fuse.

g) All apparatus using 115V supply must be connected with a 3-line cord and safely grounded.

h) Any paint or other coating (e.g., rust) must be removed from the surface that is to be grounded.

i) The grounding wire should be continuous (i.e., no joins).

j) Leave enough slack in the ground line so that it will not be put under tension.

k) There should be no exposed conductors that carry a voltage in excess of 30V.

l) If you are to work on any electrical circuit always disconnect the apparatus from its power source. Do not just turn off its switch.

m) Never jerk plugs from their outlet by pulling on the cord, always grasp the body of the plug and pull straight out.

9. **Electric Shock**
   a. Never touch a victim of electric shock until the electric power is shut off by the red button on the wall or at the main electric power panel.

10. **All hair that is longer than shoulder length must be tied back so that it cannot fall forward and possibly catch on fire.**

11. Students are not allowed entry to a laboratory except for students in an authorized class(s), and no unauthorized "visitors" are allowed in any laboratory.

12. **No student will work in a laboratory unsupervised.** All students must obtain permission from a faculty member and a technologist to work in a laboratory outside of scheduled hours. No unauthorized experiments or procedures are allowed in any laboratory.

13. **No HORSEPLAY** in a laboratory. **Horseplay and vandalism are not tolerated under any circumstances in the laboratory.** Such action will result in immediate removal from the laboratory and possible suspension from the program.

14. Your work area must be well organized and uncluttered.

15. No eating, drinking or smoking in any laboratory. Never taste or purposely inhale the fumes or dust of any chemical. Always use a fume hood.

16. You must wash your hands thoroughly at the end of a laboratory period and before eating, drinking or smoking.

17. Report all cuts, burns or accidental swallowing of chemicals, and breakages of all kinds to your professor and/or technologist. Go to the nearest first aid station (see the floor plans in the last section of this document).
18. For burns or chemicals spilled on skin, prolonged washing with copious amount of water for five (5) minutes or more may be necessary. Use cold running water and get the affected part under the tap immediately and ask for help from a professor or technologist.

19. When your experiment is finished, all services such as gas, water, and electricity (including computers on carts) must be turned off. All equipment, reagent bottles and glassware, etc. must be returned to their proper storage cabinets, and all surfaces (e.g., laboratory bench tops and fume hoods) must be cleaned before leaving the laboratory.

20. If any piece of laboratory equipment is not operating properly then electrical power must be cut and a prominent notice describing the problem must immediately be placed on the apparatus.

21. Report any malfunction of an instrument to the professor or technologist in charge of a lab. Do not attempt to repair or use an instrument that appears to be working improperly.

22. Students are responsible for all equipment issued to them. Breakage must be reported to the professor or technologist.

23. **Waste Disposal**
   a. You must know the waste disposal procedures for the laboratory that you are in. **DO NOT put solids or water-immiscible liquids down a sink. Use containers provided in the fume hoods or ask your professor or technologist how to dispose of a waste chemical.**

   b. **Mercury (Hg) Spills/Broken Thermometers**
      a) Notify faculty or technologist immediately.
      b) Obtain first-aid treatment if required.
      c) Clean-up Procedure
      d) When mercury (Hg) spills it breaks into very small droplets that can travel quickly possibly contaminating a large area. The clean up must always be prompt and thorough.

   c. **Containment**
      a) Put on a pair of protective gloves.
      b) Isolate the spill quickly to the area affected.
      c) Minimize any movement, which may spread the spill, within the isolated area.
      d) Prevent bench spills from falling to the floor.

   d. **Physical Collection**
      c. Remove broken glass from the area and place in a beaker.
      f. Collect all the small droplets into one larger drop by directing them slowly with a piece of non-absorbent smooth paper, spatula or scoopula.
g. Scoop up the mercury (Hg) drop into a beaker and transport it and the contaminated glass to the Waste mercury (Hg) Storage Area (E305A).
h. If mercury (Hg) collects in difficult location the droplets will be collected by vacuum aspiration (see technologist for equipment). It may be necessary to treat any suspected remaining contamination with an appropriate compound to form an amalgam (see technologist for details).

24. Do not use an air line to blow dust off of your clothes, face or hands, or to cool or dry glassware.

25. **Laboratory Specific**

26. The following practices, procedures and rules are unique for the laboratories of a specific discipline.

27. **Chemistry/Metallurgy Laboratories**

28. The laboratories covered in this section are: E030, E306 (only when there are experiments using chemicals).

29. Many experiments require the use of fume hoods. You must understand the proper use of a fume hood and keep all fume hoods clean and tidy.

30. Use of Bunsen burners are restricted in many laboratories. Be sure that it is safe to light before doing so.

31. Laboratory E030 is a spark proof area. As such, all open flames such (e.g., Bunsen burners) are not allowed.

32. Transfer of chemicals. Be sure that you transfer all liquids (e.g., solvents) into the proper container. All transfer of solvents from large properly grounded safety cans to small reagent containers must be done in a fume hood. Transfer of chemicals (mainly solids) to be weighed must be done at a Top Loading balance only. Final measurement must be done at an Analytical balance. **(NO TRANSFER OF CHEMICALS WILL OCCUR AT AN ANALYTICAL BALANCE.)** Any spill of a chemical (liquid or solid) must be cleaned up immediately.

33. It is the policy of the School of Mechanical and NDE to implement the three Rs (reduce, reuse and recycle) for a safe environment. All laboratory activities are continually being revised to reduce waste, reuse chemicals (where possible) and recycle (e.g., organic solvents). However, when waste does occur, all waste organic chemicals must be disposed of in the appropriate container.

   a. For example, chemicals with oxygen (O₂) must be disposed of in waste containers labelled with oxygen (O₂) and chemicals without oxygen (O₂) must be disposed of in another waste container labelled without oxygen (O₂). Other waste containers may be labelled as ethers, metals or potassium permanganate etc. Also, individual experiments and laboratories may have unique disposal
procedures. You **MUST NOT** dispose of a chemical in the wrong container. If you are unsure of a disposal procedure for a particular waste chemical always check with a faculty member or a technologist before disposal.

34. No pipetting by mouth is allowed in any laboratory. You **MUST** use a pipet bulb.

35. Label all containers that you are using with the name and concentration of the chemical, and if it is hot it must be clearly identified as **HOT**. You must know and understand all WHMIS symbols and hazards.

36. Keep fume hoods clutter free and clean. (N.B., Do not leave samples in a fume hood unattended or when it is not necessary for the sample to be in a fume hoods.)

37. Clean up all chemical spills (e.g., solvents, solids or aqueous solutions) immediately.

38. Clean up all broken glass immediately (use brush and dust pan provided). Dispose of broken glass **only** in the appropriate broken glass container.

39. Know the location of the eye wash fountain in every laboratory. Proper use of an eye wash fountain require the flushing of an eye for 15 minutes minimum with copious amounts of water while holding your upper and lower eyelids away from the eyeball and rolling eyes while washing affected eye.

40. While working with vacuum systems, be aware of the possibility of an implosion.
   a. **NOTE:** your professor will give specific precautions.

41. While working with pressurized systems, be aware of the possibility of an explosion.

42. Volatile flammable liquids must not be stored in ordinary refrigerators that have not been made explosion proof.

43. All used sample vials must be returned to the appropriate collection container.

44. All high-pressure cylinders must be secured and handled according to the WHMIS Worksite Specific instructions described in the Compressed Gases (Safe Handling Procedures) section of this document.

**Physics/Metrology/Automation Laboratories**

The laboratories covered in this section are: E029, E03.

1. Lab coats and safety glasses are required in the physics labs

2. Avoid direct viewing of any light or laser source.

3. All the radiation sources used in this laboratory are of very low level, however, prolonged contact and exposure should be avoided.

**NDE Laboratories**
The laboratories covered in this section are: A028 and any others where NDE techniques are required.

1. Disposable laboratory coats and gloves may be required.
2. Steel toed safety shoes
3. Long pants – legs must be covered
4. No lanyards are to be used

EMERGENCY PROCEDURES INVOLVING A COMPRESSED GAS
Class A Materials

If you see gas escaping from a cylinder which appears to be damaged or faulty:

1. Alert others to the situation.
2. Do not approach the cylinder.
3. Evacuate the area and sound the fire alarm.
4. Call emergency 911 and relay information as to the nature of the problem.

If you see gas escaping from an undamaged cylinder via an open valve that has been left open inadvertently:

1. Alert others to the situation.
2. Try to identify gas but do not approach cylinder.
3. An authorized person will put on the personal protective equipment necessary, including a respirator and close the main cylinder valve.
4. Open windows if possible.
5. Evacuate area until gas leak discontinues.

If you see a flammable gas escaping under any circumstances:

1. Alert others to the situation.
2. Evacuate and sound the fire alarm.
3. Call emergency 911 and relay the necessary information.
EMERGENCY PROCEDURES INVOLVING FLAMMABLE AND COMBUSTIBLE MATERIALS
Class B Materials

1. Know the location and use of fire extinguishers and exit routes.

2. EVALUATE THE EXTENT OF THE FIRE

In Cases of Large Fires

a. Leave the area and be sure to move injured parties out. Shut doors behind you (DO NOT LOCK).

b. Pull the fire alarm.

c. Call 911 and relay information as to location and nature of fire. Report injuries.

d. Evacuate the building using the appropriate exit routes. Do not use elevators.

e. Notify Mohawk College emergency at 55 if possible.

In Cases of Small Fires

a. A fire in a small container can easily be controlled by covering it with a beaker or watch glass. Do not use a dry towel or pieces of clothing. Remove all nearby flammable material so as to prevent fire from spreading.

b. Use a fire extinguisher only if the fire seems easy to control. Direct the stream of CO₂, with a side-to-side motion, towards the base of the flames. When fighting a fire, always stand between the fire and an exit. Be prepared to pull the fire alarm and evacuate the building if necessary.
EMERGENCY PROCEDURES INVOLVING OXIDIZING MATERIALS
Class C Materials

1. Know the location and use of fire extinguishers, safety showers and eye wash stations in the area.

2. Alert other people in the area to the emergency.

3. In case of fire evacuate the area at once. Ensure that injured parties are helped out of the area.

4. Sound the fire alarm and call emergency 911.

5. Shut off electrical power and gas if possible.

6. First Aid

For Ingestion
Give plenty of water to drink. Call Medical Services at ext. 2084 and inform them of the substance ingested. Do not induce vomiting unless specifically directed to do so.

For Skin or Eye Contact
Immediately flush with water for at least 15 minutes using safety shower or eye wash if necessary. Obtain medical attention in room C109 or by calling ext. 2084. Remove jewellery or contact lenses.

For Inhalation
Move victim to fresh air. Call Medical Services at ext. 2084 if necessary. If victim is not breathing, start emergency resuscitation procedures (mouth to mouth breathing with mouth guard) and if qualified to do so, start CPR.
### SOME TYPICAL OXIDIZING MATERIALS
**CLASSIFIED ACCORDING TO THEIR CHEMICAL STABILITY**

<table>
<thead>
<tr>
<th>NFPA Class 1 Oxidizers (relatively stable)</th>
<th>NFPA Class 2 Oxidizers (moderately unstable)</th>
<th>NFPA Class 3 Oxidizers (less stable than Class 2 but still moderately stable)</th>
<th>NFPA Class 4 Oxidizers (unstable)</th>
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<tbody>
<tr>
<td>Aluminum nitrate</td>
<td>Calcium hypochlorite (50% or less by weight)</td>
<td>Ammonium dichromate</td>
<td>Ammonium perchlorate</td>
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<tr>
<td>Calcium chlorate</td>
<td>Nitric acid (more than 70% concentration)</td>
<td>Potassium bromate</td>
<td>Ammonium permanganate</td>
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<tr>
<td>Lithium hypochlorite</td>
<td>Sodium chlorate</td>
<td>Potassium chloride</td>
<td>Hydrogen peroxide (more than 91% by weight)</td>
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<td>Nitric acid (70% concentration or less)</td>
<td>Sodium chloride</td>
<td>Sodium dichloroisocyanurate</td>
<td>Perchloric acid solutions (more than 72.5% by weight)</td>
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<td>Potassium nitrate</td>
<td>Perchloric acid solutions (60 to 72% by weight)</td>
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<td>Sodium nitrate</td>
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<td>Sodium persulfate</td>
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<td>Magnesium perchlorate</td>
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<td>Perchloric acid solutions (less than 60% by weight)</td>
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EMERGENCY PROCEDURES INVOLVING POISONOUS AND INFECTIOUS MATERIALS
D\textsuperscript{1} and D\textsuperscript{2} Class Materials

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<tr>
<th>D\textsuperscript{1}</th>
<th>MATERIALS CAUSING IMMEDIATE AND SERIOUS TOXIC EFFECTS</th>
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<tr>
<td>D\textsuperscript{2}</td>
<td>MATERIALS CAUSING OTHER TOXIC EFFECTS</td>
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1. Alert others to the situation.

2. If toxic gas or vapour builds up in an enclosed area, evacuate immediately. Call emergency 911 and relay information as to the nature of the emergency.

3. Treat overexposure of toxic chemicals as follows:

**In case of Ingestion**
Determine the exact nature of substance ingested. Have the victim drink large amounts of water. Call Medical Services at extension 2084 or the POISON CONTROL CENTRE at 8-1-800-268-9017 and relay the necessary information. Do not induce vomiting unless specifically directed to do so. Never give anything by mouth to an unconscious person. If there is an antidote, administer it immediately.

**In Case of Inhalation**
Move victim to fresh air. If victim is not breathing, begin mouth-to-mouth resuscitation immediately. If the heart has stopped (no pulse), start CPR (if trained to do so). Call Medical Services at extension 2084 as soon as possible.

**In Case of Eye or Skin Contact**
Immediately use eye wash, safety shower or rinse for at least 15 minutes. Get medical attention.
EMERGENCY PROCEDURES INVOLVING CORROSIVE MATERIALS
Class E Materials

In emergencies like chemical fires, leaks and spills:

1. Alert others to the situation and evacuate if the problem is beyond your control.
2. Sound the fire alarm and call emergency 911 if necessary.
3. Obtain first aid if you have been exposed to corrosives.

For Eye Contact
Flush eyes with water using the eye wash station for 15 to 20 minutes. Always get medical attention (Medical Services C109).

For Skin Contact
Remove contaminated clothing and flood exposed skin with water for at least 15 minutes (use safety shower if necessary), obtain medical attention except for minor cases of skin contact.

For Inhalation
Move victim to fresh air. If breathing has stopped begin mouth-to-mouth resuscitation. Call Medical Services at extension 2084 if necessary.

For Ingestion
Give plenty of water to drink. **DO NOT INDUCE VOMITING.** Call Medical Services at extension 2084 or Security at extension 55
EMERGENCY PROCEDURES INVOLVING DANGEROUSLY REACTIVE MATERIALS
Class F Materials

1. Alert others to the situation.
2. If situation is beyond your control, leave the area immediately.
3. Sound the fire alarm. Call emergency 911 and relay information as to nature of emergency.
4. Evacuate the building. Make sure injured parties are attended to.
5. Contact Medical Services at extension 2084 in cases of injury and obtain first aid if required.

EMERGENCY PROTECTIVE EQUIPMENT AND INFORMATION

Know the use and location of the emergency protective equipment available. Following is a list of the equipment and information found in the laboratory.

1. Fire Extinguisher (CO₂)
2. Safety Shower
3. Eye Wash Stations
4. Electrical Shut Off (various locations)
5. Lab Utilities Shut Off
6. Fire Exit Routes
7. MSDSs (E030, E303C, E304A, E327, A028)
AWARDS, SCHOLARSHIPS, AND BURSARIES

A variety of awards, scholarships, and bursaries are available every year through the Student Awards Office in the College. Each award has criteria written by the donor. Some awards are open to all Mohawk College students, while others are only open to specific Faculties within the College. We have included a partial list of awards from previous years that were available to students in the BECAM Department. These awards are dependent upon the donors and we cannot guarantee that these awards will be offered every year.

Mechanical, NDE, Aviation Awards, Scholarships and Bursaries

Alison Smit Bursary
COM DEV Mechanical Engineering Scholarship
Grace Dorothy Carpenter Scholarship
Hamilton International Airport Ltd. Scholarship
Hamilton Engineering Week Bursary
Hamilton International Airport Ltd. Bursary
ITML Inc. Bursary
Wescast Industries Continuous Learning Bursary

A variety of bursaries are also available to students through the Financial Aid and awards office (905)575-2133
TECHNICIAN or TECHNOLOGIST: WHAT’S THE DIFFERENCE

The difference between technicians and technologists is a difficult concept to describe. There are people who may be classified as technicians in the workplace but perform the work of a technologist, and the reverse also applies.

A technician is normally someone who is skilled in handling instruments and performs tasks that require specialized skills, training, and knowledge. Technicians will choose from several available methods to solve problems where measure variables are involved and information is readily obtainable. Technicians will use basic algebra, geometry, trigonometry, and standard software packages to mathematically analyze conditions. They will troubleshoot systems to locate and repair faulty components. Technicians will perform repetitive design tasks and sometimes make site-specific and minor changes to existing plans, layouts and calculated values.

A technologist goes beyond the repetitive application of process. Technologists deal more with abstract concepts that are not readily demonstrated, but proven by means of indirect measurement and inference. They deal with complex, integrated systems of equipment, structures and processes. Technologists will develop methods of data collection and analysis, often leading to solutions which are complex. They troubleshoot problems and develop design improvements or alternative product applications. Technologists are adaptive individuals and will get looking for new and better ways to apply current technologies to their jobs.

In more general terms, technologists will normally have more responsibility and decision-making in their jobs than technicians. As a consequence of this the technologist requires more training and will normally have greater career opportunities and higher salary expectations.

No matter what program a student graduates from however, success is largely dependent on the student, and goals that he/she sets for him/herself.
The Job Center provides assistance to students, employers and college personnel on a year round basis. The Office acts as an employment resource link between education and industry. Employment officers provide job referral services, pertinent labour market information, career advisement, and job search presentations. For information about Chemical and Mechanical graduate placements please call (905) 575-2167.

**CO-OPERATIVE EDUCATION**

Co-operative Education (Co-op) extends the academic learning process into the workplace through on-the-job learning experiences. Co-op integrates the learning objectives contained in the program of studies with real life applications in the work force. These learning experiences enhance the student’s vocational maturation and personal development.

The Co-operative Education Department is responsible for:

- Providing opportunities for paid, supervised off-campus work semesters in co-operating business, industry, and government agencies.
- Providing comprehensive career development services for co-op students within the academic curriculum.
- Enhancing the potential for graduate employment through industry contacts and career development in jobs that match the student’s aspirations and training.

The co-op staffs works closely with Chemical and Mechanical to ensure the job selection process jobs closely related to the academic program content. This close communication also provides feedback to the Program Co-ordinators and Advisory Committees, that the most appropriate skill sets are being developed to enable student success in Canadian business and industry.

The benefits to the students who participate in co-op are numerous:

- Experiencing practical applications of academic knowledge
- Acquiring career information for future decision-making
- Developing human relations and communication skills
- Earning money and managing finances
- Developing contacts for graduate employment
- Enhancing job search and interview skills
- Developing workplace learning objectives and career goals

Co-op employers have called the work semester a “four month interview” during which they can evaluate potential employees. The benefits to the co-op employer include:

- Better opportunity to evaluate potential employees
- Provision of motivated, well-educated, and capable employees
- Increased visibility in attracting qualified personnel
- Opportunity to become a “corporate citizen” by contributing to the education process
- Reduction of recruiting costs and improved retention by ensuring a better match of individual and position

In order to gain the most benefit from co-op an employer should develop a co-op plan with definite policies, procedures and goals. Points to be considered in this plan should include:

- Accurate, informative job descriptions to stimulate student interest
• An orientation to familiarize the incoming student with the employer’s situation and expectations
• Supervision of students by individuals who understand and are interested in co-op
• Increasing responsibilities in successive work semesters for returning students
• An exit interview to discuss the student’s performance and future plans

SPECIAL NOTES

Students who enter a Co-op Program are expected to assume several responsibilities. They must compete for and obtain one of the available jobs or find acceptable alternative employment for the work semester. They are required to fulfil their agreements with employers and abide by the rules governing Co-operative Education. Failure to do so could result in suspension from the program and a failing grade in a work term. The format for co-op in the various programs is shown in Figure 2. Note that not all programs have the same co-op/academic semester sequence.

A student who declines to accept two job offers without just cause after interviews provided by the co-op staff may be prevented from taking further interviews. The student will then be required to find his/her own job.

Priority for co-op employment will be given to full-time students who are Canadian citizens or landed immigrants. If there are excess co-op positions available, International students may have access to the co-operative jobs.

Students participating in co-operative education will be assessed a co-op service fee per academic semester beginning with semester one.

Full guidelines for co-operative education may be obtained from the Job Centre.

The Job Centre staff attempts to provide work opportunities related to the students’ career interests and program of studies. This is not a guarantee. The final work placement success is largely the responsibility of the student.
BIBLIOGRAPHY


2. Canadian Centre for Occupational Health and Safety, various publications.
