



Third Period Technical Training

- Industrial Mechanic (Millwright) -

(8 Weeks @ 30 Hours per Week = 240 hours)

Instructor(s):

Craig Cail – Chair / Instructor

780-715-3902

Craig.Cail@keyano.ca

Tom MacLellan – Instructor

780-792-5075

Tom.MacLellan@keyano.ca

Terry Seaward – Instructor

Terry.Seaward@keyano.ca

780-791-4909

Office Hours:

Monday through Friday: 8:00 am to 4:00 pm

Course Description:

In the Third Period Technical Training you will learn about:

1. Fluid Power.
2. Compressors, Fans, Dryers, Industrial Refrigeration and Heat Exchangers.
3. Alignment and Levelling.
4. Electrical Systems and Controls.

Required Textbooks: (available at Keyano College Bookstore approximately 2 weeks prior to start date)

Third Period Millwright Apprenticeship ILMs w/supplemental texts

Alberta Learning

Edmonton: Author, 1998–, SKU 2001313

Industrial Mechanic (Millwright) Program Supplies (Required for all periods):

- 3-ring binders, dividers, and lined paper
- 6 or 12 inch ruler
- Pens, pencils, highlighters, erasers
- Calculator (with no programmable memory; Casio FX 260 is recommended)
- Coveralls or smock
- CSA approved safety boots
- Safety Goggles with side shields
- Work gloves

Learning Outcomes

Upon successful completion of Section One – Fluid Power - you will be able to

1. Describe fundamentals of industrial hydraulics.
2. Demonstrate function, application and operation of hydraulic valves.
3. Describe operating principles, maintenance and applications of hydraulic pumps and actuators.
4. Describe accessories, fluids and methods of sealing fluids in hydraulic systems.
5. Demonstrate maintenance and troubleshooting of hydraulic systems.
6. Describe fluid conductors and installation techniques.
7. Demonstrate pneumatic systems.
8. Perform hydraulic calculations.

Upon successful completion of Section Two – Compressors, Fans, Dryers, Industrial Refrigeration and Heat Exchangers - you will be able to

1. Describe principles, components and maintenance of screw compressors and lobe blowers.
2. Describe principles, components and maintenance procedures for vane compressors.
3. Describe principles, components and maintenance procedures for liquid ring compressors.
4. Describe principles, components and maintenance of centrifugal and axial flow compressors.
5. Describe principles, components and maintenance for fan and fan accessories.
6. Describe principles, components and maintenance for gas and air dryers and accessories.
7. Describe operation, maintenance and safety related to industrial refrigeration systems.
8. Describe operation and maintenance of heat exchangers.
9. Describe the use of insulation.

Upon successful completion of Section Three – Alignment and Levelling - you will be able to

1. Demonstrate laser equipment to align machine shafts.
2. Demonstrate levelling and bore alignment procedures.

Upon successful completion of Section Four – Electrical Systems and Controls - you will be able to

1. Describe principles of electricity and electromagnetism.
2. Describe electrical principles and applications.
3. Describe basic industrial controls and troubleshooting.
4. Describe basic PLC applications and troubleshooting.

Schedule

A detailed daily class / shop schedule will be handed out on the first day of each intake.

Grading

Apprentices must successfully meet three criteria to pass technical training.

1. Minimum 65% Theory Component (cumulative weighted average)
2. Minimum 65% on each Practical Component
3. Minimum 50% on every section of study.

Fluid Power	37%
Comp, Fans, Ind Ref & Heat Exch	37%
Alignment & Leveling	13%
Electrical Systems & Controls	13%
Total Theory Component	100%
Lab/Shop	100%
Total Practical Component	100%

Important Phone Numbers

- **Candace Trites, Administrative Assistant** **780-791-4881**
Call Candace if you are going to be absent from class or have any general questions or concerns.
- **Craig Cail, Construction Trades Chair** **780-715-3902**
Call Craig if you have any concerns with class work, instructor, or if you need any type of academic accommodations.

Call your instructor if you need information about class work, schedules or if you need extra help to learn the material.
- **Suzanne Beveridge, Alberta AIT** **1-800-248-4823**
Call Suzanne if you have questions about attendance, apprenticeship, or your employer.
- **Security** **780-791-4911**
Call security if you feel threatened while on campus, to report a fire, if you need a door unlocked, or for parking issues.
- **Office of the Registrar**
 - **Registration Assistants** **780-791-4801**
Call this office if you have questions about fees/tuition or class availability.
- **Student Life Calendar** <https://calendar.keyano.ca/student/>
Refer to the Student Life calendar for events and important dates for students.

IMPORTANT NOTICE

Information Regarding Fees and Procedures

If the address listed on your fee assessment sheets is different from your current address, or if your address changes anytime during the duration of your program, please go to the Student Services Centre and fill out the “Change of Address” form as Keyano College requires a current address for you at all times.

Your Student ID cards are available for pick up at the Office of the Registrar. Please have your Student ID # and photo identification available. Apprentices are required to pick up a new Student ID card every Academic Year.

For information on Awards/Bursaries, please contact the Student Services Center either in person or by phone at (780) 791-4894.

Keyano College is a paid parking facility. Parking passes can be purchased at the Cashier's Office when you go to pay your program fees.

Parking Fees: (2019-2020)

2 Weeks	\$12.87
1 Month	\$24.77
2 Months	\$39.63

Please ensure that when you are paying your program fees that you indicate to the Cashier whether or not you would like to purchase a parking pass. Unreserved, General Parking is available in lots A, B, E and F. Lots C and D are reserved staff parking. If you park in a reserved spot, you can be ticketed even if you have a hang tag or daily pass. Please see the campus map for locations of the parking lots.

Please Note:

- It is now your responsibility to submit your E.I. forms on your own time. (HRDC no longer comes to the college)
- You can submit your registration on-line
<http://www100.hrdcdrhc.gc.ca/ae-ei/dem-app/english/home2.html>
- Or link from <http://www.servicecanada.gov.ca>

CLEARWATER CAMPUS MAP

For classroom MAPS please refer to
SAKC STUDENT HANDBOOK

