First Period Technical Training

- Heavy Equipment Technician-

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

Instructor(s):

Chester Parisian – Chair
780-799-8610
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Kevin Wills – HET Instructor
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Office Hours:

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

Suncor Energy Industrial Campus (SEIC)

Course Description:

In the First Period Technical Training you will learn about:

1. Safety, Materials and Tools;
2. Suspensions, Wheels and systems;
3. Hydraulics 1 and Hydraulic Brake Systems
4. Electrical 1 and Electronics 1
5. Air Brakes

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

First Period ILM Package and 1st Year Keyano College handout package

Heavy Equipment Technician Program Supplies
(Required for all periods):

- 2 inch 3-ring binders and lined paper
- 6 or 12 inch ruler
- Pens, writing pencils, coloured pencils, highlighters, erasers
- Calculator (with no programmable memory)
- Coveralls
- CSA approved safety boots and safety glasses

Learning Outcomes

Upon successful completion of Section One– *Safety, Materials and Tools* - you will be able to

1. Describe legislation, regulations and practices intended to ensure a safe work place in this Trade.
2. Describe the use of *personal protective equipment* (PPE) and safe practices for climbing, lifting, rigging and hoisting in this trade.
3. Describe the safety practices for hazardous materials and fire protection in this trade.
4. Demonstrate communication skills and workshop safety as it pertains to the Heavy Equipment Technician trade.
5. Identify materials and fasteners commonly used in the trade.
6. Demonstrate the correct us of hand, shop and power tools common to the trade.
7. Demonstrate the correct use of measuring tools common to the trade.
8. Perform metal cutting and heating operations safely using oxyacetylene equipment.

Upon successful completion of Section Two - *Suspension, Wheels and Systems* - you will be able to

1. Explain the operating principles and design features of common frame and suspension systems.
2. Repair common types of frame and suspension systems.
3. Service common bearings and seals.
4. Service wheels, tires and hubs.
5. Identify common trailer systems and components.
6. Service trailer coupling systems and landing gear.
7. Explain trailer inspection according to CVI regulations.
8. Explain typical maintenance programs used with off-road and on road equipment.

Upon successful completion of Section Three – *Hydraulic 1 and Hydraulic Brake Systems* - you will be able to

1. Apply scientific principles to braking system operation.
2. Explain the operation of hydraulic drum and disc brake systems.
3. Service hydraulic drum and disc brake systems.
4. Explain power braking systems service procedures.
5. Explain service procedures of parking brake systems.
6. Explain service procedures of electric braking systems.
7. Explain hydraulic principles.
8. Explain the function of the following hydraulic system components; hydraulic oils, reservoirs, filters, conductors, and heat exchangers.
9. Explain the functions and principles of operation of hydraulic system components.

Upon successful completion of Section Four – *Electrical 1 & Electronics* 1 - you will be able to

1. Apply scientific principles to explain electrical theory.
2. Identify electrical circuit types and circuit defects.
3. Apply scientific principles to explain the theory of magnetism.
4. Use electrical test equipment to measure electrical values and check circuit operation.
5. Service, test and charge a lead-acid battery.
6. Test and repair electrical circuits.
7. Test discrete electronic components used in the trade.
8. Describe the operation of basic computer-controlled systems.

Upon successful completion of Section Five – *Air Brakes* - you will be able to

1. Explain the fundamental principles of operation of an air brake system.
2. Explain the operating principles of air brake mechanical components.
3. Explain the principles of operation of truck/tractor air brake systems.

4. Explain the principles of trailer brake system component operation.
5. Service and diagnose truck/tractor and trailer air brake systems.
6. Describe the basic operation of an air antilock brake system.

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.

Standard Workplace Safety	16.7%
Suspension & Wheels	22.5%
Hydraulics & Brakes	20.8%
Electrical & Electronics	21.7%
%	18.3
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.

- **Chester Parisian, HET Program Chair** **780-7799-8610**
  Call Chester if you have any concerns with class work, instructors, or if you require 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** **780-791-7911**
  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 in 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	$24.76
2 Months	$39.62

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

Campus Map
Suncor Energy Industrial Campus