



First Period Technical Training

- Welder -

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

First Period Technical Training - Welder

Instructor(s):

Kevin McGladdery

Chair, Metal Trades

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Office Hours:

Monday through Thursday: 8:00am - 4:00pm

Course Description:

In the First Period Technical Training you will learn about:

1. Workplace Safety and Tools
2. Welding Technology and Properties of Metals
3. GMAW, FCAW, MCAW and SAW
4. Trade Math

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

First Period Welder Apprenticeship ILMs

Alberta Learning

Edmonton: Author, 1998—, SKU 2000308

Welder Program Supplies (Required for all periods):

- Books: a) *Metals and How to Weld Them*
b) *Metal Trades Handbook*
- Lined paper or notebook
- Pens, pencils, erasers
- Calculator (with no programmable memory; **Casio FX 260** is recommended)
- Fire resistant coveralls and/or cotton denim jeans/jacket and welding cap or beanie
- Welding helmet with #10 lens and cutting goggles or face shield with #5 lens
- Chipping hammer, tip cleaners, wire brush, striker
- Mig pliers and two pairs of vise grips
- Ankle high CSA Approved safety boots and non-tinted safety glasses with side shields
- Gloves

Learning Outcomes

Upon successful completion of Section One – *Workplace Safety 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. Describe the role of the Alberta Apprenticeship and Industry Training Board and the network of industry committees that represent the trades and occupations in Alberta.
5. Apply safe work practices according to Occupational Health and Safety Act (OHS) legislation.
6. Use hand tools.
7. Use power tools.
8. Assemble oxyfuel equipment.
9. Perform oxyfuel cutting.
10. Cut and gouge using the plasma arc and carbon arc cutting processes.
11. Apply materials handling procedures.

Upon successful completion of Section Two – *Welding Technology and Properties of Metals* – you will be able to:

1. Read and interpret drawings.
2. Describe electrical concepts.
3. Identify types of metals and their characteristics.
4. Identify the effects of heat treatment on carbon steels.
5. Identify joints and weld types.
6. Interpret welding symbols.
7. Identify distortion and methods of control.
8. Identify weld faults.
9. Observe hardfacing of steel.

Upon successful completion of Section Three – GMAW, FCAW, MCAW, and SAW – you will be able to:

1. Select wire feed welding equipment.
2. Select wire feed welding consumables.
3. Select shielding gases for the wire feed process.
4. Set up, maintain and troubleshoot wire welding equipment.
5. Perform fillet and groove welds on mild steel.
6. Perform FCAW and MCAW operations in multiple positions.
7. Perform GMAW, FCAW and MCAW welds on mild steel.
8. Explain aluminum properties and principles.
9. Perform welds on aluminum.
10. Perform GMAW, FCAW and MCAW on mild steel pipe.
11. Describe the components and operation of the SAW process.

Upon successful completion of Section Four – Trade Math – you will be able to:

1. Solve problems involving fractions.
2. Solve problems involving decimals.
3. Solve problems involving percentage and ratios.
4. Solve problems involving geometric formulas.
5. Solve problems involving metric and imperial measure.
6. Describe the apprenticeship training system in Alberta.

Schedule

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

Grading

Your grades in this period will be based on:

Workplace Safety and Tools	10%
Welding Technology and Properties of Metals	20%
GMAW, FCAW, MCAW, and Saw Theory	20%
Trade Math	10%
Lab Practical	40%
Total	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.

- **Kevin McGladdery, Chair, Metal Trades** **780-791-4900**
Call Kevin if you have any concerns with class work, instructors, 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** **780-791-7911**
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.

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	\$24.77
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

