



First Period Technical Training

- Welder -

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

Instructor(s):

Darren Stacey

Chair, Metal Trades

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Richard Dionne

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Norman Hennings

780-791-4902

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Office Hours:

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

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
- Although classes are scheduled in person, we ask that all students are prepared with the technology required for virtual classes (online) should it become necessary; Computer/laptop, microphone, camera and internet access.

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

Learning Outcomes

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

1. Apply legislation, regulations and practices ensuring safe work in this trade.
2. Use industry standard practices for climbing, lifting, rigging and hoisting in this trade.
3. Apply industry standard practices for hazardous materials and fire protection in this trade.
4. Describe the role of the network of industry committees that's represent 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

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.

Wrk Safety/Tool	19%
Weld Tech/Metal	20%
GMAW, FCAW, MCAW & SAW	49%
Trades Math	12%
Total Theory Component	100%
GMAW Lab/Shop	33.4%
FCAW Lab/Shop	33.3%
Cutting Lab/Shop	33.3%
Total Practical Component	100%

E-Learning

Technology and internet will impact your online learning experience. It's important that you are able to watch an online video and other course materials, take online quizzes, and participant in a live class with your instructor and other students.

Keyano College operates in a Windows based environment and having the correct tools for online learning is important. Here's a list of recommended system requirements for Fall 2020.

Internet Speed

Minimum Internet speeds of 5 Mbps.

Recommended Internet speeds of 25 Mbps (especially if you are sharing your internet at home). Check your internet speed with [Fast.com](https://www.fast.com).

System requirements:

Microsoft Windows	Apple
<p>Minimum Requirements:</p> <p>A Windows 10 computer/laptop</p> <ul style="list-style-type: none"> · Minimum 4GB of RAM. · 10GB+ available hard drive storage. · Enough available hard drive space to install the Microsoft Office suite (approximately 3GB). Microsoft Office software is free to all Keyano students and employees. · Microphone, webcam and speakers. A headset with a microphone is recommended. · System updates must be regularly installed. · Anti-Virus / Anti-Malware software 	<p>Minimum Requirements:</p> <p>A Macintosh (V10.14 and above) computer/laptop</p> <ul style="list-style-type: none"> · Minimum 4GB of RAM. · 10GB+ available hard drive storage. · Enough available hard drive space to install the Microsoft Office suite (approximately 3GB). Microsoft Office software is free to all Keyano students and employees. · Microphone, webcam and speakers. A headset with a microphone is recommended. · System updates must be regularly installed. · Anti-Virus / Anti-Malware software.
<p>Recommended Requirements</p> <ul style="list-style-type: none"> · 8GB of RAM · A method of backing up/synchronizing to local or cloud-based storage such as OneDrive is highly recommended. This is included if you complete the setup of KeyanoMail and download MS Office using your Keyano email for free. 	<p>Recommended Requirements</p> <ul style="list-style-type: none"> · 8GB of RAM · A method of backing up/synchronizing to local or cloud-based storage such as OneDrive is highly recommended. This is included if you complete the setup of KeyanoMail and download MS Office using your Keyano email for free.
<p>Chromebooks are not recommended as they are not compatible with testing lockdown browsers.</p> <p>A Microsoft Surface or iPad or iPad Pro may be possible alternatives in some program areas.</p>	

Specific department requirements:

Business and OA programs require Windows 10.

Other programs may utilize Windows based tools as well.

Computer Software

Students will be able to get access to Microsoft Office 365 for Free using Keyano Credentials by [clicking here](#).

Recording of lectures and Intellectual Property

Students may only record a lecture if explicit permission is provided by the instructor or by Accessibility Services. Even if students have permission to record a lecture or lecture materials, students may not publish any of the lectures or lecture materials, this includes any recordings, slides, instructor notes, etc. on any platform. Thus no student is allowed to publish or sell instructor notes without formal written permission. It is important to recognize that the Canadian Copyright Act contains provisions for intellectual property.

ITS Helpdesk

If you are having issues with your student account, you can contact the ITS Helpdesk by emailing its.helpdesk@keyano.ca or calling 780-791-4965.

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 & Heavy Industrial Chair** **780-715-3902**
Call Craig 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.

- **Mark Power, Alberta AIT** **780-743-7181**
Call Mark 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 Bookstore. Current rates can be found at: <https://www.keyano.ca/en/about-us/parking.aspx>

When parking, please be mindful of designated areas ("Reserved", "Metered", etc.) 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

