

Ironworker (Reinforcing) *A Guide to Course Content*

Ironworker (Reinforcing) workers field fabricate and weld rebar. They also handle, cut, sort, bend, tie and install rebar and other materials used in reinforcing concrete.

Training Requirements: To graduate from each level of the apprenticeship program, an apprentice must successfully complete the required technical training and compile enough on-the-job experience to total at least 1800 hours each year. Total trade time required is 3600 hours and at least 2 years in the trade.

There are two levels of technical training delivered by Saskatchewan Polytechnic in Moose Jaw:

Level One: 7 weeks

Level Two: 7 weeks

The information contained in this pamphlet serves as a guide for employers and apprentices. The pamphlet briefly summarizes the training delivered at each level of apprenticeship training. An apprentice spends approximately 15% of the apprenticeship term in a technical training institute learning the technical and theoretical aspects of the trade. The hours and percentages of technical and practical training may vary according to class needs and progress.

The content of the technical training components is subject to change without notice.



Level One - 7 weeks

Safety Awareness

- safety equipment
- safe work practices
- regulatory requirements

Tools and Equipment

- applications and maintenance
- procedures for use

Communication and Trade Documentation

- effective communication practices
- trade documentation
- drawings and their applications
- interpretation and extraction of information
- hand signals

Work Planning

- job planning
- material/equipment selection

Cutting

- oxy-fuel equipment and accessories
- oxy-fuel cutting

Introduction to Welding

- SMAW equipment and accessories
- SMAW welding processes
- basic knowledge of GMAW equipment and process

Access Equipment

- ladders/scaffolding
- aerial work platforms

Hoisting, Lifting and Rigging

- equipment applications and limitations
- factors in selecting rigging equipment
- calculate basic safe working loads, sling tension/angle and breaking strength
- basic load weight calculations

Introduction to Cranes and All Terrain Fork Lifts (Zoom Boom)

- applications and limitations
- lifting operations

Structural Components

- characteristics and applications
- fastening methods
- falsework

Reinforcing I

- reinforcing materials and accessories
- reinforcing concrete

Level Two -7 weeks

Drawing Interpretation and Trade Mathematics (30 hours associated studies)

- structural engineering and reinforcing steel drawings
- post-tensioning drawings
- ratios, proportions, slopes, percentages, area, and volume math
- calculate advanced safe working loads, sling tension/angle and breaking strength
- advanced load weight calculations

Reinforcing II

- fabrication of reinforcing material
- installation of reinforcing material

Pre-Stressed/Post-Tensioning Systems

- systems and their components
- placing pre-stressed/post-tensioning systems
- stressing/post-tensioning systems
- grouting

Hydraulic and Tower Cranes

- components and accessories including changing crane setup
- erection, set-up and disassembly

Surveying

- tool use such as builders and laser levels