



## Ironworker (Structural/Ornamental) - Upgrading *A Guide to Course Content*

*Ironworker (Structural/Ornamental) workers field fabricate, weld, cut, erect, and dismantle structural, miscellaneous, and ornamental metal work; erects and places pre-cast concrete; rigs and places machinery and equipment.*

**Training Requirements:** All candidates applying for upgrading training must be eligible to challenge the journeyperson examination.

The information contained in this pamphlet serves as a guide for employers and apprentices. The pamphlet briefly summarizes the training provided in the upgrading program. This program is designed to prepare individuals to challenge the Ironworker- Structural journeyperson examination.

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



## Ironworker (Structural/Ornamental) Technical Training Overview

### **Job planning and preparation**

- Trade mathematics
- Hand and power tools
- Transits and levels
- Drawing interpretation
- Structural steel drawings
- Curtain walls drawings

### **Rigging and machinery moving**

- Ropes
- Wire rope hardware
- Reeving
- Formulas
- Rigging aids
- Cranes
- Signals
- Access structure
- Transits and levels
- Pre-cast erection
- Fasteners
- Winches

### **Erection of hoisting and conveyance equipment**

- Hoisting and conveyance equipment

### **Erection of structural ironwork**

- Welding
- Erecting steel buildings
- Ornamental, miscellaneous and curtain wall tools
- Miscellaneous steel and ornamental iron
- Curtain wall theory

## **Reinforcing Concrete**

Concrete basics  
Stresses in concrete  
Effects of steel in concrete  
Rebar manufacture  
Reinforcing steel fabrication  
Placing of reinforcing steel  
Epoxy coated reinforcing steel  
Welded wire fabric  
Post-tensioning and prestressing

## **Moving and installing robotic equipment**

Robotics

## **Erection of scaffolds, falsework and other platforms**

Scaffolding  
Falsework

## **Erection of wood structures**

Wood glulam

### **Saskatchewan Apprenticeship & Trade Certification Commission**

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