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.

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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

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