



PROGRAM OVERVIEW

Sault College provides the in-school training for this 6,000-hour Ironworker apprenticeship program. Apprentices are scheduled by the Ministry of Training, Colleges and Universities to attend in-school training for three eight-week terms at levels one, two and three.

PROGRAM OF STUDY

Level 1 (6170)

- IRN610 - 1 Protect Self and Others
- IRN620 - 6 Welding Level 1
- IRN640 - 8 Rigging Level 1
- IRN650 - 5 Structural Steel and Platework - Level 1
- IRN660 - 5 Applied Trade Calculations
- IRN670 - 5 Cranes

Level 2 (6171)

- IRN710 - 4 Welding Level 2
- IRN720 - 11 Rigging Level 2
- IRN730 - 11 Structural Steel and Platework - Level 2
- IRN740 - 4 Machinery Moving Level 2

Level 3 (6172)

- IRN810 - 11 Ornamental and Miscellaneous Ironwork
- IRN820 - 5 Welding Level 3
- IRN830 - 1 Structural Steel and Platework - Level 3
- IRN840 - 6 Curtain Wall
- IRN850 - 2 Machinery Moving Level 3
- IRN870 - 5 Automated Materials and Handling Systems

Course Descriptions

Level 1 (6170)

Protect Self and Others (IRN610) (1 credits)

Upon successful completion, the apprentice will be able to describe how to work safely protecting self and others in accordance with government legislation, industry standards, and equipment manufacturers recommendations. The apprentice will be able to explain the Occupational Health and Safety ACT (OHSA) as it applies specifically to the Ironworker trade, understand the purpose and procedures of the Workplace

Safety Insurance Board (WSIB), and the role of the Construction Safety Association of Ontario (CSAO). The apprentice will be able to identify and state safe workplace practices, and describe the Workplace Hazardous Materials Information System (WHMIS).

Welding Level 1 (IRN620) (6 credits)

Upon successful completion, the apprentice will be able to perform oxy/fuel heating, cutting, brazing, welding, and shielded metal arc welding (SMAW) in accordance with government safety regulations and the requirements of the specified trade related task.

Rigging Level 1 (IRN640) (8 credits)

Upon successful completion, the apprentice will be able to determine the rigging equipment and procedures required to perform lifts in accordance with government safety regulations, accepted industry standards, and the requirements of assigned traded related projects. This includes using the specified type of fiber rope for rigging and lifting work members, performing reeving procedures for blocks, and determining the required rigging materials and capacities to perform lifts.

Structural Steel and Platework - Level 1 (IRN650) (5 credits)

Upon successful completion, the apprentice will be able to perform structural steel and platework in accordance with government safety regulations, manufacturers recommendations and accepted industry standards. This includes using and maintaining hand tools, power tools and equipment to fabricate, assemble and disassemble structural steel and platework projects, and explaining the drawings and blueprints. The apprentice will also be able to perform the fabrication of members, layout of structural steel members, and basic installation and fastening procedures for structural steel and platework.

Applied Trade Calculations (IRN660) (5 credits)

Apprentices will learn and apply trade related calculations used in the trade to solve trade related programs.

Cranes (IRN670) (5 credits)

Apprentices will learn about the type and configuration of cranes. They will learn and apply principles of operation, pre-lift planning and set-up, operating procedures and erection and dismantlement of cranes.

Level 2 (6171)

Welding Level 2 (IRN710) (4 credits)

Upon successful completion, the apprentice will be able to perform shielded metal arc welding in accordance with government safety regulations and the requirements of the specified trade related task. This includes explaining blueprints and drawings related to shielded metal arc welding projects, and performing shielded metal arc position welding procedures primarily focusing on horizontal and vertical positional welding and progressing to overhead position welding as experience suits.

Rigging Level 2 (IRN720) (11 credits)

Upon successful completion, the apprentice will be able to determine rigging equipment and procedures required to perform lifts in accordance with government safety regulations, accepted industry standards and the requirements of assigned trade related projects. This includes using the specified type of wire rope for rigging and lifting work members, and the appropriate rigging hardware to perform safe lifts. The apprentice will also be able to perform lifts using specified slings and hoisting equipment.

Structural Steel and Platework - Level 2 (IRN730) (11 credits)

Upon successful completion, the apprentice will be able to perform structural steel and platework in accordance with government safety regulations, manufacturers recommendations and accepted industry standards. This includes performing the layout and fabrication of structural steel and platework members, and explaining the drawings and blueprints. As well, the apprentice will be able to describe the structural steel and platework material erection methods, and perform installation and fastening, and alignment and

inspection procedures for structural steel and platework.

Machinery Moving Level 2 (IRN740) (4 credits)

Upon successful completion, the apprentice will be able to move machinery in accordance with government safety regulations, accepted industry standards and the requirement of assigned trade related projects. This includes explaining the drawings and specifications required to move machinery, fabricating the required members for machinery moving operations, describing the appropriate transportations methods to move machinery, and performing the required installation and securing procedures to move machinery.

Level 3 (6172)

Ornamental and Miscellaneous Ironwork (IRN810) (11 credits)

Upon successful completion, the apprentice will be able to perform fabrication and installation of ornamental and miscellaneous ironwork in accordance with government safety regulations, accepted industry standards, and the requirement of assigned trade related projects. This includes explaining the drawing and layouts for project specifications, performing fabrication and layout procedures, describing material erection methods, and installing, securing, aligning and inspecting materials.

Welding Level 3 (IRN820) (5 credits)

Upon successful completion, the apprentice will be able to perform shielded metal arc position welding (SMAW), Gas Metal Arc semi-automatic welding, plasma arc cutting, and arc gouging in accordance with government safety regulations, accepted industry standards and the requirement of assigned trade related projects. This includes explaining blueprints and drawings related to welding projects.

Structural Steel and Platework - Level 3 (IRN830) (1 credits)

Upon successful completion, the apprentice will be able to perform structural steel and platework in accordance with government safety regulations, manufacturers recommendations and accepted industry standards. This includes performing the layout of structural steel members.

Curtain Wall (IRN840) (6 credits)

Upon successful completion, the apprentice will be able to perform fabrication and installation of curtain wall systems in accordance with government safety regulations, accepted industry standards, and the requirements of assigned trade related projects. This includes explaining the drawings and layout for curtain wall specifications, performing the fabrication and layout procedures for curtain wall members, and erecting, aligning, securing and inspecting a curtain wall system.

Machinery Moving Level 3 (IRN850) (2 credits)

Upon successful completion, the apprentice will be able to move machinery in accordance with government safety regulations, accepted industry standards, and the requirements of assigned trade related projects. This includes performing the layout, alignment and inspection of machinery moving operations.

Automated Materials and Handling Systems (IRN870) (5 credits)

Upon successful completion, the apprentice will be able to perform automated materials handling systems and robotics installations in accordance with government safety regulations, accepted industry standards and the requirements of assigned trade related projects. This includes explaining the drawings and specifications, and fabricating, installing, securing, aligning and inspecting automated materials handling systems and robotics installations.