

APPENDIX A

PROGRAM OUTLINE

WELDING LEVEL B

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Welding Level B

Admission Requirements:

Grade 10 or equivalent including English 10, Math 10, And Science 10. Grade 12 preferred.

Shielded Metal Arc Welding (SMAW)

- Select electrodes for SMAW
- Use the SMAW process on low carbon steel plate and pipe

Semi-Automatic and Automatic Arc Welding

- Use the GMAW and GMAW-P process
- Use combined GMAW, MCAW, and FCAW processes

Gas Tungsten Arc Welding (GTAW)

- Use the GTAW process for ferrous metals
- Use the GTAW process for stainless steel
- Use the GTAW process for aluminum

Basic Metallurgy

- Describe mechanical and physical properties of ferrous and non-ferrous metals
- Describe common ferrous, non-ferrous, and reactive metals and their weldability
- Describe the grain structure of metals
- Describe aluminum, aluminum alloys, and their weldability

Welding Drawings, Layout and Fabrication

- Read and interpret drawings
- Interpret and apply mechanical drawings and layouts components
- Fabricate weldments
- Costing and estimating

Quality Control and Inspection

- Describe basic welding quality control and inspection requirements
- Describe inspection and testing procedures
- Describe the scope of the welding supervisor and inspector responsibilities

Standards, Codes, Specifications, and Welder Qualifications

- Identify applicable standards, codes, specifications, and jurisdictional bodies
- Describe compliance with weld procedure specifications (WPS) and data sheets.