

# Welder/Metal Fabricator (Fitter)

Welder/Metal Fabricator is a combination of both the Welder and Metal Fabricator programs. At the end of the two years you will have two certificates. You will be qualified to do the work of a Welder and a Fabricator. Some of your duties include: develop patterns or follow directions given in layouts, blueprints and work orders, clean, check for defects and shape component parts, weld parts together, lay out, cut and fabricate structural steel, study engineering drawings and blueprints to determine the materials required and plan the sequence of tasks to cut the metal most efficiently, rig and hoist and move materials to storage areas or within the worksite assemble and fit metal sections and plates to form complete units or sub-units using tack welding, bolting, riveting or other methods, install fabricated components in the final product. You will probably work a forty hour, five day work week however, overtime may be required to meet project deadlines. Your work environment could be on a construction site or in a repair shop. You should have good manual dexterity, good vision, and good hand-eye coordination, have the ability to concentrate on detailed work and have patience.

### OUTCOMES

1. Demonstrate safe work practices and personal protection.
2. Perform basic rigging operations.
3. Comply with codes, specifications and standards.
4. Cuts using oxy-fuel, plasma, air carbon and electrical cutting processes.
5. Verify material.
6. Weld using oxy-fuel, shielded metal, flux cored, gas metal and tungsten arc welding processes.
7. Utilize various shop drawings, sketches and fabrication drawings.
8. Fabricate detail materials.
9. Prepare final products for finishes.
10. Install on-site.

### ENTRANCE REQUIREMENTS

Eligibility for admission requires the applicant to meet one of the following academic criteria:

#### 1. High School

High School Graduation

#### 2. Comprehensive Arts and Science (CAS) Transition

Comprehensive Arts and Science (Transition) Certificate

#### 3. Adult Basic Education

Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:

- i. Mathematics MA3107A, MA3107B, MA3107C
- ii. Science 3101, 3102, 3103

#### 4. Mature Student Status

Applicants who do not meet the educational prerequisites, are 19 years of age or older and have been out of school for at least one year, may be considered on an individual basis under the Mature Student Clause.

### EMPLOYMENT OPPORTUNITIES

You will find employment as an apprentice in machine shops, fabrication plants, garages, production plants, shipyards, and oil rigs, Provincial, Federal and Municipal Governments. Additional experience and training leads to employment opportunities such as foreperson, supervisor, inspector, and engineering assistant.

### CERTIFICATE

- Two years
- Start date varies
- Burin and Port aux Basques Campuses

### COURSES

CODE	TITLE	Hrs
<b>Semester 1 Entry Level</b>		
TS1510	Occupational Health and Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
WD1165	Hand, Measuring and Layout Tools	15
WD1170	Hand and Power Cutting Tools	15
WD1175	Drilling and Threading Tools	15
WD1180	Grinding and Finishing	12
WD1910	Layout and Template Development Fundamentals	40
WD1660	Blueprint Reading I (Basic)	30
WD1670	Blueprint Reading II (Welding Symbols)	30
WD1700	Stationary Power Shearing	6
WD1720	Jigs and Fixture Fabrication	15
WD1730	Fabrication Fundamentals	15
SF1420	Basic Layout Operations	20
ND1101	Liquid Penetrant I	30
ND1102	Liquid Penetrant II	45
MR1220	Customer Service	30
MC1050	Introduction to Computers	30
SD1700	Work Place Skills	30
MA1060	Basic Math	30
<b>Semester 2</b>		
WD1710	Iron Worker Operation	12
WD2440	Blueprint Reading IV (Shop Drawing)	15
SF1470	Basic Assembly and Fitting	40
WD1185	Bending and Rolling	4
SF1410	Roll Forming Equipment and Operation	45
SF1430	Basic Parallel Line Development	30
SF1460	Basic Plate Development	120
SF1450	Basic Triangulation Layout	30
SF1400	Press Brake Operation	45
CM2150	Workplace Correspondence	45
SP2330	Quality Assurance/Quality Control	30
<b>Semester 3</b>		
SD1710	Job Search Techniques	15
SD1720	Entrepreneurial Awareness	15
WD2200	Welding Codes	45
SF1440	Basic Radial Layout	30
WD2430	Material Handling, Rigging and Scaffolding	35
<b>Semester 4</b>		
WD1600	Oxy-Fuel Welding, Cutting, Heating & Gouging	45
WD1880	Fusion, Brazing, and Braze Welding	15
WD1610	SMAW - Set-Up and Maintain Arc	30
WD1870	Build Up Metal Parts	15
WD1630	GMAW - Set-Up and Maintain Arc	15
WD1340	GMAW - Filled Welds Fillet Welds (Flat & Horizontal)	15
WD1820	GMAW - Fillet Welds all Positions	15
WD1830	GMAW - Groove Welds	20
WD1620	SMAW - Fillet Welds	60
WD1680	Metallurgy, Expansion and Contraction	30
WD1810	SMAW - Medium and High Carbon Steel	4
WD1690	Quality Control	30
WD1270	SMAW - Butt Joint (Flat and Horizontal)	30
<b>Semester 5</b>		
WD1800	SMAW - Groove Welds All Positions	110
WD1740	FCAW - Setup	15
WD1890	FCAW - Fillets and Grooves	15
WD1900	Air Carbon Arc	19
WD1640	GTAW - Setup	15
WD1840	GTAW - Fillets	30
WD1850	GTAW - Grooves	30
WD1860	GTAW - Fillet and Groove Weld, Medium and High Carbon Steel	4
WD1650	Plasma Arc Cutting and Gouging	10
ND1201	Magnetic Particle Inspection I	45
ND1202	Magnetic Particle Inspection II	45
<b>Semester 6</b>		
OT1150	Work Term	80

