

**Durham College Skilled Trades**

**Welding**

Students learn to operate welding equipment to fuse metal segments using processes such as gas tungsten arc (GTAW), gas metal arc (GMAW), flux cored arc (FCAW) and shielded metal arc (SMAW). Students will be able to read and interpret blue prints, welding process specifications and layout, cut and form metal to specific details.

Studies include welding theory, applied blueprint reading, trade practices. The courses included in this program are as follows:

<b>Semester 1</b>	<b>Semester 2</b>
Welding Theory 1	Blueprint Reading/Fitting
Applied Blue Print Reading	Welding Theory 2
Gas shielded Semi-Automatic Welding	Shielded Metal Arc (SMAW) 2
Shielded Metal Arc Welding (SMAW)	Semi-Automatic Welding 2
Material and Process Quality 1	Gas Tungsten Arc Welding 1
Trade Practices	Fitting
Thermal Cutting	Process Quality 2
Mathematics 1	Plasma Arc Welding (PAW)
Intro to Small Business 1	Shielded Metal Arc (SMAW) 3
Communications	Mathematics 2

These courses vary in duration from 30 to 90 hours.

Subject breakdown – 50% theory and 50% application.

**Employment Opportunities for Program Graduates**

Welders can work in machinery, construction, and metal-fabricating industries which include heavy machinery contractors, aircraft contractors, ship builders and transportation contractors as well as specialized welding shops.

## Mobile Crane Operator

Mobile crane operators maintain and operate crawler or wheel mounted cranes that are capable of raising, lowering, or moving material. Students will learn to maintain and operate cranes or draglines to lift, move, position, or place machinery, equipment and other large objects.

Studies include load charts, trade theory, and trade practical. The courses included in this program are as follows:

<b>Semester 1</b>	<b>Semester 2</b>
Safety Ropes and Rigging Crane Components and Devices Pre-Operation Pre-Lift Set-up and Planning Assembly and Disassembly of a crane Load Charts 1 Mathematics 1 Intro to Computers	Transporting a Crane Operating a Crane Crane Maintenance Load Charts 2 Mathematics 2 Communications

Subject breakdown – 50% theory and 50% application.

## Employment Opportunities for Program Graduates

Mobile Crane Operators are generally employed by commercial building developers, building construction firms, large manufacturing companies, and heavy construction companies.

## Carpentry

This program provides students with theoretical knowledge of the Carpenter skilled trade and will provide the practical skills necessary to work in the construction field.

Students receive training in the following areas: exterior framing, exterior finishing, formwork and foundations, finishing (walls and ceilings), and interior finishing. The courses included in this program are as follows:

<b>Semester 1</b>	<b>Semester 2</b>
Safety, Materials, and Tools Plans, Specifications and Codes 1 Estimating, Calculations, and Layout 1 Metal Cutting and Welding Residential Construction Mathematics 1	Commercial Construction Plans, Specifications and Codes 2 Estimating, Calculations and Layout 2 Mathematics 2 Communications Intro to Small Business

These courses vary in duration from 16 hours to 192 hours.

### **Employment Opportunities for Program Graduates**

Graduates can access an apprenticeship in the carpentry trade. Graduates can work in residential and commercial construction sectors. Construction estimating, renovation contracting, and custom home building are areas of employment opportunity.

### **Skilled Labourer**

Skilled Trades Helper program where the individual will be trained in the terminology and basic skills of all the trades. These individuals will be able provide knowledgeable support to a certified skilled tradesperson by assisting in various tasks like laying conduit for certified electricians, which would free up time for the certified electrician to manage other projects.

- Electrical
- Heavy Mechanic
- Welding
- Carpentry
- Crane Operation
- Excavation (TBC)