

# Erindale College

<b>Assessment Period:</b>	<b>2021 S2</b>
<b>Course:</b>	<b>METAL PRODUCTS</b>
<b>Unit:</b>	<b>Techniques in Metal Manufacture (1.0)</b>
<b>Accreditation:</b>	<b>A</b>
<b>Year:</b>	<b>11</b>

## Unit Goals

- develop skills and proficiency in the use of hand tools and metal fabrication, and measuring and marking out tools and techniques
- analyse and apply workshop organisation and procedures including Work, Health and Safety in the metal workshop environment
- explore and apply communication skills including interpretation of information from a variety of sources
- apply a problem solving design approach and technical skills to produce a variety of metal projects following a given design

## Content Description

### Industry practices, processes and procedures

- investigate arc welding and/or gas metal arc welding, and gas welding and cutting
- apply ethical environmental and sustainable work practices complying with industry standards
- fabricate a basic project to set specifications using a range of tools and processes, for example, sheet fabrication, welding
- analyse industrial housekeeping and safe work practices

### Technical information

- plan scope of the job, including organisation and selection of equipment to ensure specifications are met in the finished project
- select appropriate hand and power tools according to task requirements
- apply basic skills in fabricating and joining
- analyse and apply industry standards when preparing a product(s)
- apply skills in measuring and marking out to suit job requirements
- explore the properties and functions of different sheet metals such as steel, aluminium and coated metals
- discuss the uses of various shapes and forms of ferrous and non-ferrous metal such as sheet, bar, wire and tube for particular applications

### Work, health and safety (WHS)

- identify personal health and safety hazards in the workshop environment and apply personal hazard reduction in relation to welding and cutting procedures, and material coatings and finishes
- analyse risk hazards, seek appropriate assistance and apply personal hazard reduction
- apply risk mitigation techniques in the form of students creating a Job Safety Analysis (JSA)
- understand material dangers and using safety data sheets

### Problem solving

- identify and define problems, analyse different possible solutions and select the best option
- interact with others in solving problems, proposing solutions and justifying ideas

### **Industry literacy and numeracy**

- analyse and apply processes for writing, editing and recording of work procedures
- interpret simple numerical information in materials, construction procedures and equipment
- demonstrate accurate use of numeracy in practical activities

### **Behaviour and attitudes in the workplace**

- analyse and apply interpersonal skills required in working with a diverse range of people
- understand how self-management skills contribute to positive outcomes
- demonstrate organisation of self, materials and work to achieve deadlines
- understand, communicate with and effectively interact with people across cultures

### **Reflection on own learning**

- reflect on own learning and needs
- self-assess and reflect on whether own work meets industry standards and on ways of improving

### **Communication**

- interpret information from workshop engineering drawings
- use terminology correctly both orally and writing
- analyse and present documented evidence of process, decision making and evaluation of product
- articulate ideas, seek assistance, clarify, offer suggestions or justify approaches

## **Assessment Tasks**

<b>Name</b>	<b>Due Date</b>	<b>Weighting</b>
Safety assignment	Friday week 3: 30 July	10%
Design Folio 1	Friday week 8: 3 September	10%
Practical Project 1	Friday week 8: 3 September	35%
Design Folio 2	Friday week 16: 12 November	10%
Practical Project 2	Friday week 16: 12 November	35%

## **Specific Unit Information**

### **COST OF MATERIALS**

There are costs associated with this unit of study, and they are as follows:

A **\$30.00** contribution is asked per semester. This covers the cost of metals, hardware, finishes and consumables.

## **School Assessment Information**

### **For penalties for late and non-submission of work**

See [BSSS Policy and Procedure Manual 4.3.10](#) for further information.

### **For academic integrity**

See [BSSS Policy and Procedure Manual 4.3.12](#) for further information.

**For appeals processes**

See [BSSS Policy and Procedure Manual 7.2](#) for further information.

**For moderation procedures (internal and external)**

See [BSSS Policy and Procedure Manual 5](#) for further information.

## Achievement Standards for METAL PRODUCTS A - Year 11

	<i>A student who achieves an A grade typically</i>	<i>A student who achieves a B grade typically</i>	<i>A student who achieves a C grade typically</i>	<i>A student who achieves a D grade typically</i>	<i>A student who achieves an E grade typically</i>
<b>Knowledge and understanding</b>	<ul style="list-style-type: none"> <li>analyses work practices, processes and procedures</li> <li>analyses technical information and specifications</li> <li>evaluates work, health and safety practices</li> </ul>	<ul style="list-style-type: none"> <li>explains work practices, processes and procedures</li> <li>explains technical information and specifications</li> <li>analyses work, health and safety practices</li> </ul>	<ul style="list-style-type: none"> <li>describes work practices, processes and procedures</li> <li>describes technical information and specifications</li> <li>describes work, health and safety practices</li> </ul>	<ul style="list-style-type: none"> <li>identifies work practices, processes and procedures</li> <li>identifies technical information</li> <li>identifies work, health and safety practices</li> </ul>	<ul style="list-style-type: none"> <li>identifies some work practices, processes and procedures</li> <li>identifies some technical information</li> <li>identifies some work, health and safety practices</li> </ul>
<b>Skills</b>	<ul style="list-style-type: none"> <li>applies with high proficiency, industry practices, processes and procedures to deliver a service and/or create a product</li> <li>applies with high proficiency, technical information and specifications to create high quality products and/or services</li> <li>solves problems, proposes solutions and justifies decisions in completing a task</li> <li>demonstrates with high proficiency, industry specific literacy and numeracy skills to a range of tasks</li> <li>demonstrates highly developed behaviours and attitudes and contributes positively to learning and work</li> <li>reflects with insight on own learning processes</li> <li>communicates with high proficiency, using a range of modes and medium using industry terminology and effectively organises materials and resources</li> </ul>	<ul style="list-style-type: none"> <li>applies with proficiency, industry practices, processes and procedures to deliver a service and/or create a product</li> <li>applies with proficiency, technical information and specifications to create quality products and/or services</li> <li>solves problems, proposes solutions and explains decisions in completing a task</li> <li>demonstrates with proficiency, industry specific literacy and numeracy skills to a range of tasks</li> <li>demonstrates developed behaviours and attitudes and contributes positively to learning and work</li> <li>explains own learning processes</li> <li>communicates with proficiency, using industry terminology and competently organises materials and resources</li> </ul>	<ul style="list-style-type: none"> <li>applies effectively industry practices, processes and procedures to deliver a service and/or create a product</li> <li>applies effectively technical information and specifications to create quality products and/or services</li> <li>solves problems, proposes solutions and describes decisions in completing a task</li> <li>demonstrates effectively industry specific literacy and numeracy skills to tasks</li> <li>demonstrates appropriate behaviours and attitudes and contributes positively to learning and work</li> <li>describes own learning processes</li> <li>communicates effectively, using industry terminology and organises materials and resources</li> </ul>	<ul style="list-style-type: none"> <li>applies some industry practices, processes and procedures to deliver a service and/or create a product</li> <li>applies some technical information and specifications to create products and/or services</li> <li>follows instructions, guidelines and procedures</li> <li>demonstrates some industry specific literacy and numeracy skills to tasks</li> <li>demonstrates some appropriate behaviours and attitudes and mainly contributes positively to learning and work</li> <li>describes some learning processes</li> <li>communicates using some industry terminology and demonstrates some ability to organise materials and resources</li> </ul>	<ul style="list-style-type: none"> <li>applies little or no industry practices, processes and procedures to deliver a service and/or create a product</li> <li>applies little or no technical information and specifications to create products and/or services</li> <li>follows simple instructions, guidelines and procedures</li> <li>demonstrates little or no industry specific literacy and numeracy skills to tasks</li> <li>demonstrates limited appropriate behaviours and attitudes</li> <li>describes limited learning processes</li> <li>communicates using little or no industry terminology and demonstrates little or no ability to organise materials and resources</li> </ul>