# 9/10 Metal Work Scope and Sequence 2016

**Stage 5 Industrial Technology: Metal Work**

This holistic, project based programming format has been developed to allow students to gain skills and knowledge in the Industrial Technology: Metal focus area. The use of projects of interest to the students is an integral component to its success. They are seen as a student motivation vehicle to deliver the syllabus outcomes. The projects developed must take into account several key factors such as, workshop resources, teacher expertise, location of the school and student interest. Section 1 of the programming format allows the teacher to map tasks/activities to *learn about* and *learn to* statements. In section 2 the actual teaching strategies are sequenced to allow students and teachers to progress through the unit of work in a logical manner.

**Life skills outcomes**

For most students with special educational needs the outcomes in Stage 5 Industrial Technology will be appropriate. Access to *Life skills* outcomes could be utilised for those students who are experiencing more difficulty. These students may be given alternate assessment tasks, modified units of work or more help with specific areas of study. Each student would be assessed using specific outcomes related to their knowledge, understanding and skills.

The course provides opportunities for students to develop knowledge, understanding and skills in relation to metals, it’s make up and associated industries.

Core modules develop knowledge and skills in the use of materials, tools and techniques related to metal working and fabrication which are enhanced and further developed through theory work and practical applications and the study of specialist modules in automotive technologies.

Practical projects reflect the nature of the Metal Work focus area and provide opportunities for students to develop specific knowledge, understanding and skills related to Metal work-related technologies. These may include:

* Understanding and applying OHS and PPE in the workshop
* Understanding design plans
* Measuring and cutting
* Fabricating various sheet metal products
* Using various hand held power tools
* Using various industry machinery including welders, metal lathes and Mill machine
* Researching, Designing and constructing own product

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| Unit/Module | Component/s | Overview | Proposed Assessment | Timing |
| Module 1 | WHS and Risk Management, Workshop Technologies Hand Book1, hand/power tools, basic workshop machines | safely use tools, materials and equipment as well as personal protective equipment  when working with materials, tools and machines, Complete Theory work from  Workshop Technologies Hand Book1 and Metals Handbook. Complete practicals  Bottle Opener (using hand tools, measuring), Toolbox/carryall (measuring, handtools  Folding using sheet metal). Junior Hacksaw( Hand tools, cutting, machine shop  Tools, measuring bending), Tack Hammer(measuring, cutting, machine shop tools) | Safety Booklet/test, Tools Booklet, Workshop Technologies Hand Book 1 and Metals Handbook, Practical tasks | **Semester 1** |
| Module 2 | WHS and Risk Management, Workshop Technologies Hand Book2, basic workshop machines, Welding | safely use tools, materials and equipment as well as personal protective equipment  when working with materials, tools and machines, Complete Theory work from  Workshop Technologies Hand Book2 and Metals Handbook. Complete practicals  Tack hammer (measuring, cutting, machine shop tools), metal art (design, measuring, cutting, machine shop tools), F-clamp (Hand/power tools, cutting, machine shop  Tools, measuring, welding) | Workshop Technologies Hand Book 2, practical tasks | **Semester 2** |
| Module 3 | WHS and Risk Management | safely use tools, materials and equipment as well as personal protective equipment  when working with materials, tools and machines, Complete Theory work from  Workshop Technologies Hand Book2 and Metals Handbook. Instructional writing. Complete practicals Camping BBQ, Tradie Tool Box/ ute box. (workshop machines, fabrication, welding, mechanical cutting, hand tools, design, thermal cutting) | Instructional writing for BBQ, hand tools, theory booklet, practical tasks. | **Semester 3** |
| Module 4 | WHS and Risk Management, Major Work | safely use tools, materials and equipment as well as personal protective equipment  when working with materials, tools and machines, Complete Portfolio.  Complete major practical work.(workshop machines, fabrication, welding, mechanical cutting, hand tools, design, thermal cutting) | Own Major Work, practical work, portfolio. | **Semester 4** |

Projects promote the sequential development of skills and reflect an increasing degree of student autonomy as they progress through the course.