Metal Products

A/M/V

Written under the Industry & Services Framework 2017 Edition

Accredited from 2020 – 2024

Supporting Qualifications from the **Manufacturing and Engineering Training Package** (refer to *training.gov.au*):

MEM10119   **Certificate I in Engineering**

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The ACT Senior Secondary System

The ACT senior secondary system recognises a range of university, vocational or life skills pathways.

The system is based on the premise that teachers are experts in their area: they know their students and community and are thus best placed to develop curriculum and assess students according to their needs and interests. Students have ownership of their learning and are respected as young adults who have a voice.

A defining feature of the system is school-based curriculum and continuous assessment. School-based curriculum provides flexibility for teachers to address students' needs and interests. College teachers have an opportunity to develop courses for implementation across ACT schools. Based on the courses that have been accredited by the BSSS, college teachers are responsible for developing programs of learning. A program of learning is developed by individual colleges to implement the courses and units they are delivering.

Teachers must deliver all content descriptions; however, they do have flexibility to emphasise some content descriptions over others. It is at the discretion of the teacher to select the texts or materials to demonstrate the content descriptions. Teachers can choose to deliver course units in any order and teach additional (not listed) content provided it meets the specific unit goals.

School-based continuous assessment means that students are continually assessed throughout years 11 and 12, with both years contributing equally to senior secondary certification. Teachers and students are positioned to have ownership of senior secondary assessment. The system allows teachers to learn from each other and to refine their judgement and develop expertise.

Senior secondary teachers have the flexibility to assess students in a variety of ways. For example: multimedia presentation, inquiry-based project, test, essay, performance and/or practical demonstration may all have their place. College teachers are responsible for developing assessment instruments with task specific rubrics and providing feedback to students.

The integrity of the ACT Senior Secondary Certificate is upheld by a robust, collaborative and rigorous structured consensus-based peer reviewed moderation process. System moderation involves all year 11 and 12 teachers from public, non-government and international colleges delivering the ACT Senior Secondary Certificate.

Only students who desire a pathway to university are required to sit a general aptitude test, referred to as the ACT Scaling Test (AST), which moderates student scores across courses and colleges. Students are required to use critical and creative thinking skills across a range of disciplines to solve problems. They are also required to interpret a stimulus and write an extended response.

Senior secondary curriculum makes provision for student-centred teaching approaches, integrated and project-based learning inquiry, formative assessment and teacher autonomy. ACT Senior Secondary Curriculum makes provision for diverse learners and students with mild to moderate intellectual disabilities, so that all students can achieve an ACT Senior Secondary Certificate.

The ACT Board of Senior Secondary Studies (BSSS) leads senior secondary education. It is responsible for quality assurance in senior secondary curriculum, assessment and certification. The Board consists of nominees from colleges, professional bodies, universities, industry, parent/carer organisations and unions. The Office of the Board of Senior Secondary Studies (OBSSS) consists of professional and administrative staff who support the Board in achieving its objectives and functions.

ACT Senior Secondary Certificate

Courses of study for the ACT Senior Secondary Certificate:

- provide a variety of pathways, to meet different learning needs and encourage students to complete their secondary education
- enable students to develop the essential capabilities for twenty-first century learners
- empower students as active participants in their own learning
- engage students in contemporary issues relevant to their lives
- foster students' intellectual, social and ethical development
- nurture students' wellbeing, and physical and spiritual development
- enable effective and respectful participation in a diverse society.

Each course of study:

- comprises an integrated and interconnected set of knowledge, skills, behaviours and dispositions that students develop and use in their learning across the curriculum
- is based on a model of learning that integrates intended student outcomes, pedagogy and assessment
- outlines teaching strategies which are grounded in learning principles and encompass quality teaching
- promotes intellectual quality, establish a rich learning environment and generate relevant connections between learning and life experiences
- provides formal assessment and certification of students' achievements.

Vocational Education and Training in ACT Senior Secondary Schools

The Board of Senior Secondary Studies is responsible for the certification of senior secondary school studies in government and non-government schools in the ACT. Students can undertake Vocational Education and Training (VET) as part of a senior secondary certificate and completion by a student can provide credit towards both a recognised VET qualification and a Senior Secondary School Certificate.

The BSSS certificates VET qualifications and Statements of Attainment on behalf of ACT colleges and high schools that offer Australian VET Qualifications and are Registered Training Organisations (RTOs) or have a Third-Party Service Agreement (TPSA) with an RTO. The Board also recognises VET qualifications delivered by external RTOs and facilitates the allocation of credit towards the ACT Senior Secondary Certificate based on assessment and hours of training.

The BSSS is not an RTO and is not responsible for those aspects that relate to VET delivery in schools or externally that fall within the role of the RTO.

Vocational programs must be assessed in accordance with the *Standards for Registered Training Organisations 2015* and the guidelines outlined in the relevant training package. Students undertaking A, T and M accredited vocational programs will be assessed against the criteria and achievement standards referenced in the framework to produce A-E grades and scores. They will also be assessed against competency standards as described in the relevant training package.

The BSSS certificates VET that:

- is listed on the national training.gov.au website; and

- is delivered and assessed by an ACT college or high school, which is an RTO or has a Third-Party Service Agreement (TPSA) with an RTO that has scope from the Australian Skills Quality Authority (ASQA) to deliver specified qualifications

- is delivered and assessed in accordance with relevant Training Package requirements.

Vocational learning contributes to the ACT Senior Secondary Certificate in a variety of ways:

- BSSS accredited A, T, and M vocational courses with embedded competencies delivered by colleges are reported with A–E grades

- BSSS accredited C courses (competency-based assessment only) delivered and assessed by colleges are reported with the grade 'P' (Pass) where at least one competency is achieved by the student; or 'Q?' 'Participated' where no competencies are achieved but attendance requirements are met

- BSSS E courses recognising study at external RTOs are reported with the grade 'P' (Pass)

- Australian School Based Apprenticeships (ASBAs) are reported as E courses with the grade 'P' (Pass).

The BSSS credit arrangements recognise VET studies externally:

- through direct credit when the qualification or Units of Competence relate to a VET course that is being studied by the student

- towards the Senior Secondary Certificate, providing the VET does not duplicate content.

Implementing Vocational Education and Training Courses (Appendix F) provides further course information, including training package requirements, and should be read in conjunction with course documents.

Underpinning beliefs

- All students are able to learn.

- Learning is a partnership between students and teachers.

- Teachers are responsible for advancing student learning.
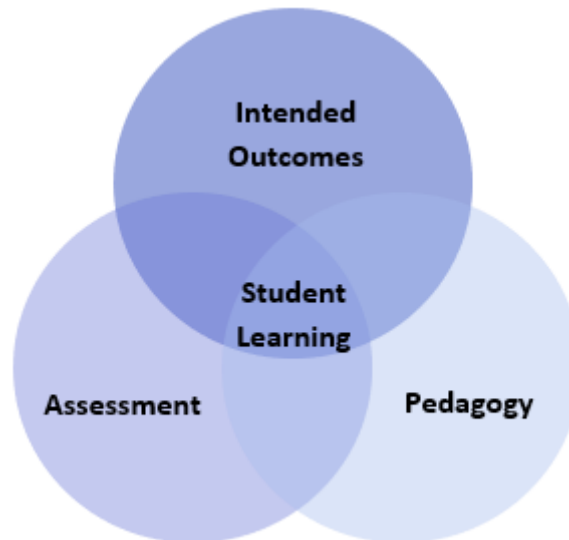
Learning Principles

1. Learning builds on existing knowledge, understandings and skills.
   (Prior knowledge)

2. When learning is organised around major concepts, principles and significant real world issues, within and across disciplines, it helps students make connections and build knowledge structures.
   (Deep knowledge and connectedness)

3. Learning is facilitated when students actively monitor their own learning and consciously develop ways of organising and applying knowledge within and across contexts.
   (Metacognition)

4. Learners' sense of self and motivation to learn affects learning.
   (Self-concept)

5. Learning needs to take place in a context of high expectations.
   (High expectations)

6. Learners learn in different ways and at different rates.
   (Individual differences)

7. Different cultural environments, including the use of language, shape learners' understandings and the way they learn.
   (Socio-cultural effects)

8. Learning is a social and collaborative function as well as an individual one.
   (Collaborative learning)

9. Learning is strengthened when learning outcomes and criteria for judging learning are made explicit and when students receive frequent feedback on their progress.
   (Explicit expectations and feedback)

General Capabilities

All courses of study for the ACT Senior Secondary Certificate should enable students to develop essential capabilities for twenty-first century learners. These 'capabilities' comprise an integrated and interconnected set of knowledge, skills, behaviours and dispositions that students develop and use in their learning across the curriculum.

The capabilities include:

- literacy
- numeracy
- information and communication technology (ICT)
- critical and creative thinking
- personal and social
- ethical understanding
- intercultural understanding

Courses of study for the ACT Senior Secondary Certificate should be both relevant to the lives of students and incorporate the contemporary issues they face. Hence, courses address the following three priorities. These priorities are:

- Aboriginal and Torres Strait Islander histories and cultures
- Asia and Australia's engagement with Asia
- Sustainability

Elaboration of these General Capabilities and priorities is available on the ACARA website at www.australiancurriculum.edu.au.

Literacy

In this course students further develop and apply their reading, comprehension, written and oral skills. They understand and apply specific instructions in relation to systems, processes, and safe operating procedures, interpreting technical information. They communicate orally in seeking assistance, solving problems with others and justifying choices. Students use language for different purposes including to interpret, discuss and explain concepts, issues, problems and solutions, read and interpret online documentation and acknowledge sources appropriately**.**

Numeracy

Students extend and apply their numeracy capability by, for example, selecting and using appropriate measurement tools and programs and applying numerical calculations appropriate to the context. They display numerical information in accordance with correct technical standards and procedures. They interpret plans and diagrams, technical data, properties of materials and product information

Information and Communication Technology (ICT) Capability

Students locate and access information using digital technologies and present project progress, findings or solutions using multimodal approaches

Critical and Creative Thinking

Students analyse existing product characteristics and features to inform the design and realisation process, visualising possibilities and scoping solutions for the construction of their products. They refine the design development in response to results of testing and research. They identify and deconstruct problems and use initiative in finding solutions using materials available

Personal and Social Capability

Students listen to and respect the perspective of others, participating in activities that foster problem-solving and practical application skills. They seek advice, share ideas about problems, progress and innovative solutions. They have opportunities to interact with people in different contexts. Students develop personal capabilities and skills such as planning effectively and managing time, planning and working in productive, creative, collaborative, and independent ways. They make decisions and take initiative. They acquire practical skills, knowledge, and understanding related to the design, development and realisation of products.

Ethical Understanding

Students develop understanding of ethical implications and sustainability through considered selection and use of materials, processes and production techniques. They recognise the importance of responsible participation in social, economic, environmental, scientific and/or ethical decision making. They apply an understanding of personal and group safety in a work environment. Students consider the impact of technological practices and products, on individuals, society and sustainability.

Intercultural Understanding

Students may learn to work with people of different cultural backgrounds and that the process of implementing a design solution may be influenced by cultural factors

Cross Curriculum Priorities

Aboriginal and Torres Strait Islander Histories and Cultures

Opportunities may exist for student' to demonstrate value and respect for Aboriginal and Torres Strait Islander peoples, their knowledge and perspectives while working in metal products

Asia and Australia's Engagement with Asia

Opportunities to look at production, sourcing and use, and changing patterns of engagement with Asia are within this course.

Sustainability

Environmental considerations in the selection and use of materials, products and disposal are integral to this course.

Metal Products

A - M - V

Rationale

The study of Metal Products provides opportunities for students to engage with emerging technologies, make connections with industry, apply standards and practices through the manufacturing of their metal projects.

This course is intended to meet the needs of students who have a general interest in industrial technology trades as well as those intending to choose a career pathway into traditional metal trades and related service industries.

Students develop relevant technical, vocational and interpersonal skills suitable for employment and further training. They can also develop skills, knowledge and experiences - such as teamwork, communication and Work, Health and Safety - that are transferable to other industries.

Goals

This course should enable students to:

- analyse industry practices, processes and procedures

- analyse technical information and specifications

- understand materials and equipment

- demonstrate industry specific literacy and numeracy skills

- solve problems and use industry specific terminology

- organise resources and material to create quality products and services

- work independently and collaboratively in accordance with WHS principles and industry standards

- communicate in a range of modes and mediums.

Unit Titles

- Working with Metal

- Techniques in Metal Manufacture

- Welding and Cutting Skills

- Metal Project

- Independent Study

Organisation of Content

Note: Units are sequenced to meet the requirements of the Manufacturing and Engineering Training Package. To meet the requirements for the qualification MEM10119 Certificate I, Engineering, units **must be** delivered in the following order.

For students **not** undertaking the Vocational Education and Training qualification the units may be delivered in any order.

Working with Metal

This unit is designed to familiarise students with workshop procedures using metal. Students learn to work safely with metal products, using and naming selected tools and materials correctly. Students learn to use selected tools and machinery to follow a given design to complete the projects undertaken in this unit. They learn communication skills such as following instructions, seeking help and recording processes as well as strategies to solve problems.

Techniques in Metal Manufacture

This unit explores metal manufacturing skills. Students learn the fundamentals of working safely with a variety of metal manufacturing processes including gas and arc welding. They learn to use a range of metal work tools in a variety of fabrication processes to follow a given design to complete the projects undertaken in this unit. Students learn communication skills such as following instructions, seeking help and recording processes as well as strategies to solve problems.

Welding and Cutting Skills

This unit is designed to develop welding and mechanical cutting skills. Students learn the fundamentals of working safely with gas and arc welding. Students learn to use a range of mechanical cutting machinery and processes, and continue to develop skills in welding. They investigate emerging technologies in global metal manufacturing. Students follow a given design to complete the projects undertaken in this unit. They learn communication skills such as following instructions, seeking help and recording processes, as well as strategies to solve problems.

Metal Project

This unit is designed to develop project management skills. Students create a project from a design brief or modify an existing design to meet a particular need, using skills such as machining and welding. They consider the choice of appropriate materials and techniques, the project timeline and the economic use of materials. They learn communication skills such as following instructions, seeking help and recording processes as well as strategies to solve problems.

Independent Study

An Independent Study unit has an important place in senior secondary courses. It is a valuable pedagogical approach that empowers students to make decisions about their own learning. An Independent Study unit can be proposed by an individual student for their own independent study and negotiated with their teacher. The program of learning for an Independent Study unit must meet the unit goals and content descriptions as they appear in the course.

Independent Study units are only available to individual students in Year 12. A student can only study a maximum of one Independent Study unit in each course. Students must have studied at least three standard 1.0 units from this course. An Independent Study unit requires the principal's written approval. Principal approval can also be sought by a student in Year 12 to enrol concurrently in an Independent Study unit and their third 1.0 unit in this course of study.

Assessment

The identification of criteria within the achievement standards and assessment task types and weightings provides a common and agreed basis for the collection of evidence of student achievement.

Assessment Criteria (the dimensions of quality that teachers look for in evaluating student work) provide a common and agreed basis for judgement of performance against unit and course goals, within and across colleges. Over a course, teachers must use all these criteria to assess students' performance but are not required to use all criteria on each task. Assessment criteria are to be used holistically on a given task and in determining the unit grade.

Assessment Tasks elicit responses that demonstrate the degree to which students have achieved the goals of a unit based on the assessment criteria. The Common Curriculum Elements (CCE) is a guide to developing assessment tasks that promote a range of thinking skills (see Appendix C). It is highly desirable that assessment tasks engage students in demonstrating higher order thinking.

Rubrics are constructed for individual tasks, informing the assessment criteria relevant for a particular task and can be used to assess a continuum that indicates levels of student performance against each criterion.

Assessment Criteria

Students will be assessed on the degree to which they demonstrate:

- knowledge and understanding
- skills.

Assessment Task Types

	Theory	Practical
	Suggested tasks: • test • folio • assignment • research project • cooperative task • planning tasks • risk assessments • presentations • drawings	Suggested tasks: • demonstration • individual project/activity • group project • continuous observation (e.g. skills, WH&S) • folio • test • presentations • online collaboration/discussion forum
Weightings in A 1.0 and 0.5 units	30 - 40%	60 - 70%
Weightings in M 1.0 and 0.5 units	30 - 70%	30 - 70%

Additional Assessment Information

- For a standard unit (1.0), students must complete a minimum of three assessment tasks and a maximum of five.
- For a half standard unit (0.5), students must complete a minimum of two and a maximum of three assessment tasks.
- Assessment tasks for a standard (1.0) or half-standard (0.5) unit must be informed by the Achievement Standards.
- Students should experience a variety of task types and different modes of communication to demonstrate the Achievement Standards.

Achievement Standards

Years 11 and 12 achievement standards are written for A-T courses. A single achievement standard is written for M courses.

A Year 12 student in any unit is assessed using the Year 12 achievement standards. A Year 11 student in any unit is assessed using the Year 11 achievement standards. Year 12 achievement standards reflect higher expectations of student achievement compared to the Year 11 achievement standards. Years 11 and 12 achievement standards are differentiated by cognitive demand, the number of dimensions and the depth of inquiry.

An achievement standard cannot be used as a rubric for an individual assessment task. Assessment is the responsibility of the college. Student tasks may be assessed using rubrics or marking schemes devised by the college. A teacher may use the achievement standards to inform development of rubrics. The verbs used in achievement standards may be reflected in the rubric. In the context of combined Years 11 and 12 classes, it is best practice to have a distinct rubric for Years 11 and 12. These rubrics should be available for students prior to completion of an assessment task so that success criteria are clear.

Achievement Standards Industry & Services - Metal Products A Course -Year 11

	A student who achieves an **A** grade typically	A student who achieves a **B** grade typically	A student who achieves a **C** grade typically	A student who achieves a **D** grade typically	A student who achieves an **E** grade typically
Knowledge and understanding	• analyses work practices, processes and procedures • analyses technical information and specifications • evaluates work, health and safety practices	• explains work practices, processes and procedures • explains technical information and specifications • analyses work, health and safety practices	• describes work practices, processes and procedures • describes technical information and specifications • describes work, health and safety practices	• identifies work practices, processes and procedures • identifies technical information • identifies work, health and safety practices	• identifies some work practices, processes and procedures • identifies some technical information • identifies some work, health and safety practices
Skills	• applies with high proficiency, industry practices, processes and procedures to deliver a service and/or create a product • applies with high proficiency, technical information and specifications to create high quality products and/or services • solves problems, proposes solutions and justifies decisions in completing a task • demonstrates with high proficiency, industry specific literacy and numeracy skills to a range of tasks • demonstrates highly developed behaviours and attitudes and contributes positively to learning and work • reflects with insight on own learning processes • communicates with high proficiently, using a range of modes and medium using industry terminology and effectively organises materials and resources	• applies with proficiency, industry practices, processes and procedures to deliver a service and/or create a product • applies with proficiency, technical information and specifications to create quality products and/or services • solves problems, proposes solutions and explains decisions in completing a task • demonstrates with proficiency, industry specific literacy and numeracy skills to a range of tasks • demonstrates developed behaviours and attitudes and contributes positively to learning and work • explains own learning processes • communicates with proficiency, using industry terminology and competently organises materials and resources	• applies effectively industry practices, processes and procedures to deliver a service and/or create a product • applies effectively technical information and specifications to create quality products and/or services • solves problems, proposes solutions and describes decisions in completing a task • demonstrates effectively industry specific literacy and numeracy skills to tasks • demonstrates appropriate behaviours and attitudes and contributes positively to learning and work • describes own learning processes • communicates effectively, using industry terminology and organises materials and resources	• applies some industry practices, processes and procedures to deliver a service and/or create a product • applies some technical information and specifications to create products and/or services • follows instructions, guidelines and procedures • demonstrates some industry specific literacy and numeracy skills to tasks • demonstrates some appropriate behaviours and attitudes and mainly contributes positively to learning and work • describes some learning processes • communicates using some industry terminology and demonstrates some ability to organise materials and resources	• applies little or no industry practices, processes and procedures to deliver a service and/or create a product • applies little or no technical information and specifications to create products and/or services • follows simple instructions, guidelines and procedures • demonstrates little or no industry specific literacy and numeracy skills to tasks • demonstrates limited appropriate behaviours and attitudes • describes limited learning processes • communicates using little or no industry terminology and demonstrates little or no ability to organise materials and resources

Achievement Standards Industry & Services - Metal Products A Course - Year 12

	A student who achieves an **A** grade typically	A student who achieves a **B** grade typically	A student who achieves a **C** grade typically	A student who achieves a **D** grade typically	A student who achieves an **E** grade typically
Knowledge and understanding	• analyses industry practices, processes and procedures and explains their significance in the application to workplace and/or work related contexts • analyses technical information and specifications and evaluates a wide range of materials and equipment • evaluates work, health and safety practices and analyses how they apply to the workplace and/or work related contexts	• explains industry practices, processes and procedures and describes their significance in the application to workplace and/or work related contexts • explains technical information and specifications and describes a range of materials and equipment • analyses work, health and safety practices and explains how they apply to the workplace and/or work related contexts	• describes industry practices, processes and procedures and identifies their significance in the application to workplace and/or work related contexts • describes technical information and specifications and identifies a range of materials and equipment • describes work, health and safety practices and identifies how they apply to the workplace and/or work related contexts	• identifies industry practices, processes and procedures with some reference to their significance in the application to workplace and/or work related contexts • identifies technical information and specifications and identifies some materials and equipment • identifies work, health and safety practices, with some reference to how they apply to the workplace and/or work related contexts	• identifies industry practices, processes and procedures with little or no reference to their significance in the application to workplace and/or work related contexts • identifies some technical information with little or no reference to materials and equipment • identifies work, health and safety practices, with little or no reference to how they apply to the workplace and/or work related contexts
Skills	• applies with high proficiency, industry practices, processes and procedures to deliver a service and/or create a product • applies with high proficiency, technical information and specifications to create high quality products and/or services • solves problems, proposes solutions and justifies decisions in completing a task • demonstrates with high proficiency, industry specific literacy and numeracy skills to a wide range of tasks • demonstrates highly developed behaviours and attitudes and contributes positively to learning and work • reflects with insight on own learning processes and needs related to industry and the workplace • communicates with high proficiency, using industry terminology and effectively organises materials and resources	• applies with proficiency, industry practices, processes and procedures to deliver a service and/or create a product • applies with proficiency, technical information and specifications to create quality products and/or services • solves problems, proposes solutions and explains decisions in completing a task • demonstrates with proficiency, industry specific literacy and numeracy skills to a range of tasks • demonstrates developed behaviours and attitudes and contributes positively to learning and work • explains own learning processes and needs related to industry and the workplace • communicates with proficiency, using industry terminology and competently organises materials and resources	• applies effectively industry practices, processes and procedures to deliver a service and/or create a product • applies effectively technical information and specifications to create quality products and/or services • solves problems, proposes solutions and describes decisions in completing a task • demonstrates effectively industry specific literacy and numeracy skills to tasks • demonstrates appropriate behaviours and attitudes and contributes positively to learning and work • describes own learning processes and needs related to industry and the workplace • communicates effectively, using industry terminology and organises materials and resources	• applies some industry practices, processes and procedures to deliver a service and/or create a product • applies some technical information and specifications to create products and/or services • follows instructions, guidelines and procedures • demonstrates some industry specific literacy and numeracy skills to tasks • demonstrates some appropriate behaviours and attitudes and mainly contributes positively to learning and work • describes some learning processes and needs related to industry and the workplace • communicates using some industry terminology and demonstrates some ability to organise materials and resources	• applies little or no industry practices, processes and procedures to deliver a service and/or create a product • applies little or no technical information and specifications to create products and/or services • follows simple instructions, guidelines and procedures • demonstrates little or no industry specific literacy and numeracy skills to tasks • demonstrates limited appropriate behaviours and attitudes • describes limited learning processes and needs related to industry and the workplace • communicates using little or no industry terminology and demonstrates little or no ability to organise materials and resources

Achievement Standards Industry & Services - Metal Products M Course - Years 11 and 12

	A student who achieves an A grade typically	*A student who achieves a B grade typically*	*A student who achieves a C grade typically*	*A student who achieves a D grade typically*	*A student who achieves an E grade typically*
Knowledge and understanding	• describes industry practices, processes and procedures independently • describes technical information and specifications independently • describes work, health and safety practices independently	• explains industry practices, processes and procedures with some assistance • explains technical information and specifications with some assistance • describes work, health and safety practices with some assistance	• describes industry practices, processes and procedures with assistance • describes technical information and specifications with assistance • recounts work, health and safety practices with assistance	• identifies industry practices, processes and procedures with continuous guidance • identifies technical information with continuous guidance • recounts work, health and safety practices with continuous guidance	• identifies some industry practices, processes and procedures • identifies some technical information with direct instruction • recounts work, health and safety practices with direct instruction
Skills	• applies industry practices, processes and procedures to deliver a service and/or create a product independently • applies technical information and specifications to products and/or services independently • demonstrates industry specific literacy and numeracy skills to a range of tasks independently • demonstrates behaviours and attitudes and contributes positively to learning independently • communicates ideas using appropriate terminology independently	• applies industry practices, processes and procedures to deliver a service and/or create a product with some assistance • applies technical information and specifications to products and/or services with some assistance • demonstrates industry specific literacy and numeracy skills to a range of tasks with some assistance • demonstrates behaviours and attitudes and contributes positively to learning with some assistance • communicates ideas using appropriate terminology with some assistance	• applies industry practices, processes and procedures to deliver a service and/or create a product with assistance • applies technical information and specifications to products and/or services with assistance • demonstrates industry specific literacy and numeracy skills to a range of tasks with assistance • demonstrates behaviours and attitudes and contributes positively to learning with assistance • communicates ideas using appropriate terminology with assistance	• applies industry practices, processes and procedures to deliver a service and/or create a product with continuous guidance • applies technical information and specifications to products and/or services with continuous guidance • demonstrates industry specific literacy and numeracy skills to a range of tasks with continuous guidance • demonstrates behaviours and attitudes and contributes positively to learning with continuous guidance • communicates ideas using appropriate terminology with continuous guidance	• applies industry practices, processes and procedures to deliver a service and/or create a product with direct instruction • applies technical information and specifications to products and/or services with direct instruction • demonstrates industry specific literacy and numeracy skills to a range of tasks with direct instruction • demonstrates behaviours and attitudes and contributes positively to learning with direct instruction • communicates ideas using appropriate terminology with direct instruction

Working with Metal   Value: 1.0

Working with Metal a   **Value: 0.5**
Working with Metal b   **Value: 0.5**

Prerequisites

Prerequisites in this unit are for students undertaking the Vocational Education and Training components of this course.

There are no prerequisites in this unit for students undertaking the Vocational Education and Training components.

Unit Description

This unit is designed to familiarise students with workshop procedures using metal. Students learn to work safely with metal products, using and naming selected tools and materials correctly. Students learn to use selected tools and machinery to follow a given design to complete the projects undertaken in this unit. They learn communication skills such as following instructions, seeking help and recording processes as well as strategies to solve problems.

Specific Unit Goals

This unit should enable students to:

A Course	M Course
• analyse and apply workshop organisation and procedures including Work Health and Safety in the metal workshop environment	• follow basic workshop organisation and procedures including Work, Health and Safety in the metal workshop environment
• apply technical skills to produce a variety of metal projects following a given design	• apply basic technical skills to produce selected metal projects /simple products
• explore and apply communication skills including interpretation of information from a variety of sources	• apply communication skills including following instructions and basic drawing and sketching
• apply a problem solving design approach to project work	• apply a simple problem solving design approach to their project work

Content Descriptions

All knowledge, understanding and skills below must be delivered:

A Course	M Course
Industry practices, processes and procedures	
• investigate light metal fabrication	• identify the use of metal and alloy products
• apply ethical environmental and sustainable work practices complying with industry standards	• use ethical environmental and sustainable work practices

A Course	M Course
• fabricate a basic project to set specifications using a range of tools and processes	• create metal products following instructions and a given design
• analyse industrial housekeeping and safe work practices	• understand workplace practices, procedures and standards
• discuss the uses of various shapes and forms of ferrous and non-ferrous metal such as sheet, bar, wire and tube for particular applications	• identify the uses of various ferrous and non-ferrous metal
Technical information	
• select appropriate hand and power tools according to task requirements	• use appropriate hand and power tools according to task requirements
• apply basic skills in fabricating and joining, for example, welding, braising and soldering	• use basic skills in fabricating and joining
• analyse and apply industry standards in preparing a product(s)	• apply industry standards in preparing a product(s)
• apply skills in measuring and marking out to suit job requirements	• measure and mark out to suit job requirements
• investigate the properties and functions of different metals	• identify the functions of different metals
Work, health and safety (WHS)	
• identify personal health and safety hazards in the workshop environment	• take responsibility for health and safety of self and contribute to the health and safety of others
• analyse risk hazards, seek appropriate assistance and apply personal hazard reduction	• apply all safety procedures and/or seek appropriate assistance when handling hazardous substances
• apply risk mitigation techniques in the form of students creating a Job Safety Analysis (JSA)	• use a Job Safety Analysis (JSA)
• understand material dangers and using safety data sheets	• understand material dangers
Problem solving	
• identify and define problems, analyse different possible solutions and select the best option	• solve simple problems and justify choices
• interact with others in solving problems, proposing solutions and justifying ideas	• interact with others in solving problems

A Course	M Course
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, for example, measuring, calculating and minimising waste	• develop writing, editing skills and recording of work procedures • interpret simple plans/patterns/templates • demonstrate 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	• use interpersonal skills in working with other people • use self-management skills to contribute to positive outcomes • demonstrate organisation of self, materials and work to achieve deadlines • 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	• reflect on own learning • reflect on own work and ways of improving
Communication	
• interpret graphical information from engineering drawing • use terminology correctly both orally and in writing • analyse and present documented evidence of process, decision making and evaluation of product • articulate ideas, seek assistance, clarify, offer suggestions or justify approaches	• apply basic drawing/sketching skills • demonstrate basic communication skills, both orally and in writing • explain choices made and consider the quality of the product created • actively listen, seek assistance and act on feedback

A guide to reading and implementing content descriptions

Content descriptions specify the knowledge, understanding and skills that students are expected to learn and that teachers are expected to teach. Teachers are required to develop a program of learning that allows students to demonstrate all the content descriptions. The lens which the teacher uses to demonstrate the content descriptions may be either guided through provision of electives within each unit or determined by the teacher when developing their program of learning.

A program of learning is what a college provides to implement the course for a subject. It is at the discretion of the teacher to emphasis some content descriptions over others. The teacher may teach additional (not listed) content provided it meets the specific unit goals. This will be informed by the student needs and interests.

For colleges wishing to deliver the VET qualification, there is flexibility for a teacher (provided the RTO has scope) to develop a program of learning aligned with the elements of the VET competencies and A-T content descriptions. The knowledge, skills and understandings within the competencies reflect the knowledge, skills and understandings of the BSSS course unit content descriptions.

Alternatively, a college may choose the A-T course without the VET qualification. In delivering the course teachers will write a program of learning aligned with students' needs and interests, meeting the A-T content descriptions.

Units of Competency

Competence must be demonstrated over time and in the full range of **Metal Engineering** contexts. Teachers must use this unit document in conjunction with the Units of Competence from the **Manufacturing and Engineering Training Package Certificate I in Engineering**, which provides performance criteria, range statements and assessment contexts.

For this semester the competencies must be delivered in the order listed in order to meet Training package requirements.

Teachers must address **all content** related to the competencies embedded in this unit. Reasonable adjustment may be made only to the mode of delivery, context and support provided according to individual student needs.

Competencies are attached to units and must be delivered in those units. However, ongoing assessment of competencies can occur while the student is enrolled as an ACT Senior Secondary student.

In order to be deemed competent to industry standard, assessment must provide authentic, valid, sufficient and current evidence as indicated in the relevant Training Package.

Certificate I in Engineering

The following core units must be delivered and assessed over the semester:

Code	Competency Title
MEM13015	**Work safely and effectively in manufacturing and engineering**

The following competencies must be delivered as they are prerequisites for subsequent units:

Code	Competency Title
MEM16006	Organise and communicate information
MEM11011	Undertake manual handling

All units of competency are optional for students undertaking an M course.

It is essential to access www.training.gov.au for detailed up to date information relating to the above competencies.

Assessment

Refer to pages 9-10.

Techniques in Metal Manufacture   Value: 1.0

Techniques in Metal Manufacture a   **Value: 0.5**
Techniques in Metal Manufacture b   **Value: 0.5**

Prerequisites

Prerequisites are for students undertaking the Vocational Education and Training components of this course. The prerequisites for this unit are:

MEM13015   Work safely and effectively in manufacturing and engineering

MEM16006   Organise and communicate information

MEM11011   Undertake manual handling.

There are no prerequisites for non-VET students.

Unit Description

This unit explores metal manufacturing skills. Students learn the fundamentals of working safely with a variety of metal manufacturing processes including gas and arc welding. They learn to use a range of metal work tools in a variety of fabrication processes to follow a given design to complete the projects undertaken in this unit. Students learn communication skills such as following instructions, seeking help and recording processes as well as strategies to solve problems.

Specific Unit Goals

This unit should enable students to:

A Course	M Course
• develop skills and proficiency in the use of hand tools and metal fabrication, and measuring and marking out tools and techniques	• develop basic skills in the use of hand tools and metal fabrication and marking out tools and techniques
• analyse and apply workshop organisation and procedures including Work, Health and Safety in the metal workshop environment	• follow basic 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 communication skills including following instructions and basic drawing and sketching
• apply a problem solving design approach and technical skills to produce a variety of metal projects following a given design	• apply a simple problem solving approach to produce metal projects following a given design

Content Descriptions

All knowledge, understanding and skills below must be delivered:

A Course	M Course
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	• use ethical environmental and sustainable work practices • create metal products following instructions and a given design • understand workplace practices, procedures and standards
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	• use hand and power tools according to task requirements • demonstrate measuring skills
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	• take responsibility for health and safety of self and contribute to the health and safety of others

A Course	M Course
• 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	• apply all safety procedures and/or seek appropriate assistance when handling hazardous substances
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	• solve simple problems and justify choices • interact with others in solving problems
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	• develop writing skills • understand simple numerical information • use numeracy skills in activities, for example, measuring
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	• use interpersonal skills in working with other people • use self-management skills to contribute to positive outcomes • demonstrate organisation of self, materials and work to achieve goals • 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	• reflect on own work and ways of improving

A Course	M Course
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	• follow written instructions • demonstrate basic communication skills, both orally and in writing • actively listen, seek assistance and act on feedback

A guide to reading and implementing content descriptions

Content descriptions specify the knowledge, understanding and skills that students are expected to learn and that teachers are expected to teach. Teachers are required to develop a program of learning that allows students to demonstrate all the content descriptions. The lens which the teacher uses to demonstrate the content descriptions may be either guided through provision of electives within each unit or determined by the teacher when developing their program of learning.

A program of learning is what a college provides to implement the course for a subject. It is at the discretion of the teacher to emphasis some content descriptions over others. The teacher may teach additional (not listed) content provided it meets the specific unit goals. This will be informed by the student needs and interests.

For colleges wishing to deliver the VET qualification, there is flexibility for a teacher (provided the RTO has scope) to develop a program of learning aligned with the elements of the VET competencies and A-T content descriptions. The knowledge, skills and understandings within the competencies reflect the knowledge, skills and understandings of the BSSS course unit content descriptions.

Alternatively, a college may choose the A-T course without the VET qualification. In delivering the course teachers will write a program of learning aligned with students' needs and interests, meeting the A-T content descriptions.

Units of Competency

Competence must be demonstrated over time and in the full range of **Metal Engineering** contexts. Teachers must use this unit document in conjunction with the Units of Competence from the **Manufacturing and Engineering Training Package Certificate I in Engineering**, which provides performance criteria, range statements and assessment contexts.

Teachers must address **all content** related to the competencies embedded in this unit. Reasonable adjustment may be made only to the mode of delivery, context and support provided according to individual student needs.

Competencies are attached to units and must be delivered in those units. However, ongoing assessment of competencies can occur while the student is enrolled as an ACT Senior Secondary student.

In order to be deemed competent to industry standard, assessment must provide authentic, valid, sufficient and current evidence as indicated in the relevant Training Package.

Certificate I in Engineering

The following units must be delivered and assessed over the semester to meet the requirements of the Training Package:

Code	Competency Title
MEM05012	Perform routine manual metal arc welding
MEM12023	Perform engineering measurements
MEM18001	Use hand tools

All units of competency are optional for students undertaking an M course.

It is essential to access www.training.gov.au for detailed up to date information relating to the above competencies.

Assessment

Refer to pages 9-10.

Welding and Cutting Skills   Value: 1.0

Welding and Cutting Skills a   **Value: 0.5**
Welding and Cutting Skills b   **Value: 0.5**

Prerequisites

Prerequisites are for students undertaking the Vocational Education and Training components of this course. The prerequisites for this unit are:

MEM13015   **Work safely and effectively in manufacturing and engineering**

MEM16006   Organise and communicate information

MEM11011   Undertake manual handling

MEM05012   Perform routine manual metal arc welding

MEM12023   Perform engineering measurements

MEM18001   Use hand tools.

There are no prerequisites for non-VET students.

Unit Description

This unit is designed to develop welding and mechanical cutting skills. Students learn the fundamentals of working safely with gas and arc welding. Students learn to use a range of mechanical cutting machinery and processes, and continue to develop skills in welding. They investigate emerging technologies in global metal manufacturing. Students follow a given design to complete the projects undertaken in this unit. They learn communication skills such as following instructions, seeking help and recording processes, as well as strategies to solve problems.

Specific Unit Goals

This unit should enable students to:

A Course	M Course
• develop skills and proficiency in the use of welding, fabrication and a range of cutting processes	• use light fabrication tools and cutting equipment
• analyse and apply workshop organisation and procedures including Work, Health and Safety in the metal workshop environment	• follow basic workshop organisation and procedures including Work, Health and Safety in the metal workshop environment
• explore and apply communication skills including interpretation of information workshop engineering drawings	• apply communication skills including following instructions and basic drawing and sketching
• produce and/ or interpret a series of design solutions in response to a brief in preparation for the production of a self-directed major project	• produce a metal product to a plan or design brief

Content Descriptions

All knowledge, understanding and skills below must be delivered:

A Course	M Course
Industry practices, processes and procedures	
• investigate advanced machining such as Computer Numerical Controlled (CNC) machinery, and milling machinery and turning operations	
• apply ethical environmental and sustainable work practices complying with industry standards	• use ethical environmental and sustainable work practices
• fabricate a project to set specifications using a range of tools and processes	• create metal products following instructions and a given design
• analyse industrial housekeeping and safe work practices	• understand workshop practices and procedures
• produce and/or interpret design solutions in response to a design brief for the production of a project	
Technical information	
• use appropriate welding, cutting and machining equipment according to task requirements	• select and use correct equipment in appropriate marking out to suit task requirements, for example, rule, tape measure, scriber and try square
• apply basic skills in cutting, welding, joining and fabricating as well as investigating processes and procedures that shape, forge and harden metal	• demonstrate basic skills in using tools
• analyse and apply industry standards when preparing a product(s)	• demonstrate measuring skills
• apply skills in measuring and marking out to suit job requirements	• demonstrate basic knowledge of technical drawing
• investigate the properties and functions of different types of welding, soldering and braising, and the maintenance requirements of equipment	
Work, health and safety (WHS)	
• identify personal health and safety hazards in the workshop environment and apply personal hazard reduction in relation to industrial process such as welding and a variety of cutting procedures	• take responsibility for health and safety of self and contribute to the health and safety of others

A Course	M Course
• 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	• apply all safety procedures and/or seek appropriate assistance when handling hazardous substances
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	• solve simple problems • interact with others in solving problems
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, for example, measuring, calculating, costing and minimising waste	• develop writing and editing skills • interpret simple numerical information • use numeracy skills in activities for example; preparing equipment and resources
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	• use interpersonal skills in working with other people • use self-management skills to contribute to positive outcomes • demonstrate organisation of self, materials and work to achieve goals • 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	• reflect on own work and ways of improving

A Course	M Course
Communication	
• use graphical and technical information in the production of plans	• follow written instructions
• use terminology correctly both orally and in writing	• demonstrate basic communication skills, both orally and in writing
• analyse and present documented evidence of process, decision making and evaluation of product	
• articulate ideas, seek assistance, clarify, offer suggestions or justify approaches	• actively listen, seek assistance and act on feedback

A guide to reading and implementing content descriptions

Content descriptions specify the knowledge, understanding and skills that students are expected to learn and that teachers are expected to teach. Teachers are required to develop a program of learning that allows students to demonstrate all the content descriptions. The lens which the teacher uses to demonstrate the content descriptions may be either guided through provision of electives within each unit or determined by the teacher when developing their program of learning.

A program of learning is what a college provides to implement the course for a subject. It is at the discretion of the teacher to emphasis some content descriptions over others. The teacher may teach additional (not listed) content provided it meets the specific unit goals. This will be informed by the student needs and interests.

For colleges wishing to deliver the VET qualification, there is flexibility for a teacher (provided the RTO has scope) to develop a program of learning aligned with the elements of the VET competencies and A-T content descriptions. The knowledge, skills and understandings within the competencies reflect the knowledge, skills and understandings of the BSSS course unit content descriptions.

Alternatively, a college may choose the A-T course without the VET qualification. In delivering the course teachers will write a program of learning aligned with students' needs and interests, meeting the A-T content descriptions.

Units of Competency

Competence must be demonstrated over time and in the full range of **Metal Engineering** contexts. Teachers must use this unit document in conjunction with the Units of Competence from the **Manufacturing and Engineering Training Package Certificate I in Engineering**, which provides performance criteria, range statements and assessment contexts.

Teachers must address **all content** related to the competencies embedded in this unit. Reasonable adjustment may be made only to the mode of delivery, context and support provided according to individual student needs.

Competencies are attached to units and must be delivered in those units. However, ongoing assessment of competencies can occur while the student is enrolled as an ACT Senior Secondary student.

In order to be deemed competent to industry standard, assessment must provide authentic, valid, sufficient and current evidence as indicated in the relevant Training Package.

Certificate I in Engineering

The following units must be delivered and assessed over the semester to meet the requirements of the Training Package:

Code	Competency Title
MEM05005	Carry out mechanical cutting
MEM18002	Use power tools/hand held operations

All units of competency are optional for students undertaking an M course.

It is essential to access www.training.gov.au for detailed up to date information relating to the above competencies.

Assessment

Refer to pages 9-10.

Metal Project   Value: 1.0

Metal Project a   **Value: 0.5**
Metal Project b   **Value: 0.5**

Prerequisites

Prerequisites are for students undertaking the Vocational Education and Training components of this course. The prerequisites for this unit are:

MEM13015	**Work safely and effectively in manufacturing and engineering**
MEM16006	Organise and communicate information
MEM11011	Undertake manual handling
MEM05012	Perform routine manual metal arc welding
MEM12023	Perform engineering measurements.
MEM18001	Use hand tools
MEM05005	Carry out mechanical cutting
MEM18002	Use power tools/hand held operations.

There are no prerequisites for non-VET students.

Unit Description

This unit is designed to develop project management skills. Students create a project from a design brief or modify an existing design to meet a particular need, using skills such as machining and welding. They consider the choice of appropriate materials and techniques, the project timeline and the economic use of materials. They learn communication skills such as following instructions, seeking help and recording processes as well as strategies to solve problems.

Specific Unit Goals

This unit should enable students to:

A Course	M Course
• analyse and apply workshop organisation and procedures including the safety risks and hazards associated with the project	• follow basic workshop organisation and procedures including the safety risks and hazards associated with machining and/or welding
• develop project management skills manufacture a project from a design brief to meet a particular need	• prepare a materials list and cost estimates to produce a metal product to a plan or design brief
• explore and apply communication skills including interpretation of information workshop engineering drawings	• apply communication skills including following instructions and basic drawing and sketching

Content Descriptions

All knowledge, understanding and skills below must be delivered:

A Course	M Course
Industry practices, processes and procedures	
• applies metal manufacturing techniques, for example, machining and welding	
• apply ethical environmental and sustainable work practices complying with industry standards	• use ethical environmental and sustainable work practices
• design and fabricate a project to a design brief	• create metal products following instructions and a given design
• investigate fastener, fittings and hardware in relation to the project	
• produce and/or interpret design solutions in response to a brief in preparation for the production of a project	
Technical information	
• apply fabrication skills in the completion of a project	
• apply techniques to modify corrosion in the application of finishes and coatings	• use finishes and coatings to suit job requirements
• apply industry standards when preparing a product(s)	
• demonstrate skills in measuring and marking out to suit job requirements	• demonstrate measuring skills
• investigate the maintenance requirements of a variety of equipment	• demonstrate basic maintenance of equipment
Work, health and safety (WHS)	
• identify personal health and safety hazards in the workshop environment and apply personal hazard reduction in relation to industrial process such as machining and welding equipment	• take responsibility for health and safety of self and contribute to the health and safety of others
• analyse risk hazards, seek appropriate assistance and apply personal hazard reduction	• apply safety procedures and/or seek appropriate assistance when handling hazardous substances
• apply risk mitigation techniques in the form of students creating a Job Safety Analysis (JSA)	
• understand material dangers and using safety data sheets	

A Course	M Course
Problem solving	
• identify and define problems, analyse different possible solutions and select the best option for the project • interact with others in solving problems, proposing solutions and justifying ideas	• solve simple problems • interact with others in solving problems
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, for example, measuring, calculating, costing and minimising waste	• develop writing skills • interpret simple numerical information • use numeracy skills in activities for example; preparing equipment and resources
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	• use interpersonal skills in working with people • use self-management skills to contribute to positive outcomes • demonstrate organisation of self, materials and work to achieve goals • 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	• reflect on own learning needs for skill development

A Course	M Course
Communication	
• use graphical and technical information in the production of plans	• follow written instructions
• use terminology correctly both orally and writing	• demonstrate basic communication skills, both orally and in writing
• analyse and present documented evidence of process, decision making and evaluation of product	
• articulate ideas, seek assistance, clarify, offer suggestions or justify approaches	• actively listen, seek assistance and act on feedback

A guide to reading and implementing content descriptions

Content descriptions specify the knowledge, understanding and skills that students are expected to learn and that teachers are expected to teach. Teachers are required to develop a program of learning that allows students to demonstrate all the content descriptions. The lens which the teacher uses to demonstrate the content descriptions may be either guided through provision of electives within each unit or determined by the teacher when developing their program of learning.

A program of learning is what a college provides to implement the course for a subject. It is at the discretion of the teacher to emphasis some content descriptions over others. The teacher may teach additional (not listed) content provided it meets the specific unit goals. This will be informed by the student needs and interests.

For colleges wishing to deliver the VET qualification, there is flexibility for a teacher (provided the RTO has scope) to develop a program of learning aligned with the elements of the VET competencies and A-T content descriptions. The knowledge, skills and understandings within the competencies reflect the knowledge, skills and understandings of the BSSS course unit content descriptions.

Alternatively, a college may choose the A-T course without the VET qualification. In delivering the course teachers will write a program of learning aligned with students' needs and interests, meeting the A-T content descriptions.

Units of Competency

Competence must be demonstrated over time and in the full range of **Metal Engineering** contexts. Teachers must use this unit document in conjunction with the Units of Competence from the **Manufacturing and Engineering Training Package Certificate I in Engineering**, which provides performance criteria, range statements and assessment contexts.

Teachers must address **all content** related to the competencies embedded in this unit. Reasonable adjustment may be made only to the mode of delivery, context and support provided according to individual student needs.

Competencies are attached to units and must be delivered in those units. However, ongoing assessment of competencies can occur while the student is enrolled as an ACT Senior Secondary student.

In order to be deemed competent to industry standard, assessment must provide authentic, valid, sufficient and current evidence as indicated in the relevant Training Package.

Certificate I in Engineering

The following unit must be delivered and assessed over the semester to meet the requirements of the Training Package:

Code	Competency Title
MEM05004	Perform routine oxy fuel gas welding

All units of competency are optional for students undertaking an M course.

It is essential to access www.training.gov.au for detailed up to date information relating to the above competencies.

Assessment

Refer to pages 9-10.

Independent Study   Value: 1.0

Independent Study a   **Value 0.5**
Independent Study b   **Value 0.5**

Prerequisites

Independent Study units are only available to individual students in Year 12. A student can only study a maximum of one Independent Study unit in each course. Students must have studied at least three standard 1.0 units from this course. An Independent Study unit requires the principal's written approval. Principal approval can also be sought by a student in Year 12 to enrol concurrently in an Independent Study unit and their third 1.0 unit in this course of study.

For Vocational Education and Training students, there are no other prerequisites.

NOTE: There are no VET competencies attached to this unit. VET competencies for this unit will need to be aligned with the requirements of the **MEM10119 Certificate 1 in Engineering Training Package** if students are to achieve the qualification.

Duplication of Content

Students must not duplicate topics, case studies or issues studied in this course.

Unit Description

An Independent Study unit has an important place in senior secondary courses. It is a valuable pedagogical approach that empowers students to make decisions about their own learning. An Independent Study unit can be proposed by an individual student for their own independent study and negotiated with their teacher. The program of learning for an Independent Study unit must meet the unit goals and content descriptions as they appear in the course.

Specific Unit Goals

This unit should enable students to:

A Course	M Course
• use tools and materials to create a finished metal product	• use tools and materials to create a finished metal product
• focus on specified knowledge, skills and techniques to develop competency and experience	• focus on specified knowledge, skills and techniques to develop competency and experience
• create and apply a design brief using a design process	• create and apply a design brief using a design process

Content Descriptions

All knowledge, understanding and skills below must be delivered:

A Course	M Course
Industry practices, processes and procedures	
- investigate the design process and approaches to project management - apply environmental and sustainable work practices - design and fabricate a project to a set design brief - produce and/or interpret design solutions in response to a brief in preparation for the production of a self directed major project	- create metal products following instructions and a given design - use ethical, environmental and sustainable work practices
Technical information	
- demonstrate use of appropriate corrosion reduction in the application of finishes and coatings - apply fabrication skills in relation to completion of a project - apply industry standards when preparing a product(s) - demonstrate skills in measuring and marking out to suit job requirements - investigate a range of engineering techniques and their application to the project	- use corrosion reduction in the application of finishes and coatings - demonstrate measuring skills
Work, health and safety	
- identify personal health and safety hazards in the workshop environment and apply personal hazard reduction - 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	- take responsibility for health and safety of self and contribute to the health and safety of others - apply safety procedures and/or seek appropriate assistance when handling hazardous substances

A Course	M Course
Problem solving	
• identify and define problems, analyse different possible solutions and select the best option for the project • interact with others in solving problems, proposing solutions and justifying ideas	• solve simple problems • interact with others in solving problems
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, for example, measuring, calculating, costing and minimising waste	• develop writing skills • interpret simple numerical information • use numeracy skills in activities for example; preparing equipment and resources
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	• use interpersonal skills in working with people • use self-management skills to contribute to positive outcomes • demonstrate organisation of self, materials and work to achieve goals • 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	 • reflect on own learning needs for skill development
Communication	
• use graphical and technical information in the production of plans • use terminology correctly both orally and writing	• follow written instructions • demonstrate basic communication skills, both orally and in writing

A Course	M Course
• analyse and present documented evidence of process, decision making and evaluation of product	
• articulate ideas, seek assistance, clarify, offer suggestions or justify approaches	• actively listen, seek assistance and act on feedback

A guide to reading A guide to reading and implementing content descriptions

Content descriptions specify the knowledge, understanding and skills that students are expected to learn and that teachers are expected to teach. Teachers are required to develop a program of learning that allows students to demonstrate all the content descriptions. The lens which the teacher uses to demonstrate the content descriptions may be either guided through provision of electives within each unit or determined by the teacher when developing their program of learning.

A program of learning is what a college provides to implement the course for a subject. It is at the discretion of the teacher to emphasis some content descriptions over others. The teacher may teach additional (not listed) content provided it meets the specific unit goals. This will be informed by the student needs and interests.

For colleges wishing to deliver the VET qualification, there is flexibility for a teacher (provided the RTO has scope) to develop a program of learning aligned with the elements of the VET competencies and A-T content descriptions. The knowledge, skills and understandings within the competencies reflect the knowledge, skills and understandings of the BSSS course unit content descriptions.

Alternatively, a college may choose the A-T course without the VET qualification. In delivering the course teachers will write a program of learning aligned with students' needs and interests, meeting the A-T content descriptions.

Assessment

Refer to pages 9-10.

Appendix A – Implementation Guidelines

Available course patterns

A standard 1.0 value unit is delivered over at least 55 hours. To be awarded a course, students must complete at least the minimum units over the whole minor, major, major/minor or double major course.

Course	Number of standard units to meet course requirements
Minor	Minimum of 2 units
Major	Minimum of 3.5 units

Units must be delivered in the sequence they are ordered in Organisation of Content (see page 8) to meet the requirements of the Training Package.

Units may be delivered in any order if the VET course is not being undertaken.

Prerequisites for the course or units within the course

Students must have studied at least three standard 1.0 units from this course in order to access the Independent Study unit. An Independent Study unit requires the principal's written approval. Principal approval can also be sought by a student in Year 12 to enrol concurrently in an Independent Study unit and their third 1.0 unit in this course of study.

Arrangements for students continuing study in this course

Students who studied the previous course may undertake any units in this course provided there is no duplication of content.

Duplication of Content Rules

Students cannot be given credit towards the requirements for a Senior Secondary Certificate for a unit that significantly duplicates content in a unit studied in another course. The responsibility for preventing undesirable overlap of content studied by a student rests with the principal and the teacher delivering the course. While it is acceptable for a student to be given the opportunity to demonstrate competence in VET qualifications over more than one semester, substantial overlap of content is not permitted. Students will only be given credit for covering the content once.

Relationship to other courses

Nil.

New and/or updated Training Package

Training Packages are regularly updated through the mandatory continuous improvement cycle. This may result in updating of qualifications and a change in the composition of competencies within a qualification. Where qualifications from the new Training Package have been deemed to be equivalent, students may continue their study without interruption. Students will be granted direct credit for those competencies already achieved.

Where there are new competencies or updated competencies with significant change and these are deemed not equivalent, students may apply for Recognition of Prior Learning (RPL) for all or part of competencies.

Granting of RPL for competencies does not equate to points towards the Senior Secondary Certificate.

Recognition of Prior Learning (RPL)

RPL is an assessment process that assesses an individual's formal, non-formal and informal learning to determine the extent to which that individual has achieved the required learning outcomes, competence outcomes, or standards for entry to, and/or partial or total completion of, a VET qualification.

Recognition of competence through the RPL process should be granted to students through gathering supplementary evidence against elements, skills and knowledge from the Training Package as well as through established assessment criteria. RPL may be granted for individual Units of Competence where the evidence is sufficient to do so.

A student having been granted RPL for one or more Units of Competence will still be required to fulfill the time based component of units that contributes to points and A to E grading for the Senior Secondary Certificate.

To cater for this requirement, curriculum designers should design the course to be flexible enough to accommodate students who have gained some competencies through RPL.

Students may demonstrate the achievement of learning outcomes through challenge testing, interview or other means that the teacher deems reasonable. Full records of the RPL process and results must be stored by the college for perusal by the National VET Regulator upon request and should confirmation be required for VET certification. The college must be informed of the application of RPL before the start of the unit that includes the competency. For RPL to be awarded, the Units of Competency must be demonstrated in the Industry context.

Guidelines for Delivery

Program of Learning

A program of learning is what a school provides to implement the course for a subject. This meets the requirements for context, scope and sequence set out in the Board endorsed course. Students follow programs of learning in a college as part of their senior secondary studies. The detail, design and layout of a program of learning are a college decision.

The program of learning must be documented to show the planned learning activities and experiences that meet the needs of particular groups of students, taking into account their interests, prior knowledge, abilities and backgrounds. The program of learning is a record of the learning experiences that enable students to achieve the knowledge, understanding and skills of the content descriptions. There is no requirement to submit a program of learning to the OBSSS for approval. The Principal will need to sign off at the end of Year 12 that courses have been delivered as accredited.

Content Descriptions

Are all content descriptions of equal importance? No. It depends on the focus of study. Teachers can customise their program of learning to meet their own students' needs, adding additional content descriptions if desired or emphasising some over others. A teacher must balance student needs with their responsibility to teach all content descriptions. It is mandatory that teachers address all content descriptions and that students engage with all content descriptions.

Half standard 0.5 units

Half standard units appear on the course adoption form but are not explicitly documented in courses. It is at the discretion of the college principal to split a standard 1.0 unit into two half standard 0.5 units. Colleges are required to adopt the half standard 0.5 units. However, colleges are not required to submit explicit documentation outlining their half standard 0.5 units to the BSSS. Colleges must assess students using the half standard 0.5 assessment task weightings outlined in the framework. It is the responsibility of the college principal to ensure that all content is delivered in units approved by the Board.

Reasonable Adjustment

Units in this course are suitable for students requiring reasonable adjustment for delivery and assessment. However, standards of competency (outcomes) as dictated by National Training Packages **cannot be modified**. Students must demonstrate competence to the level required by industry in order to gain a Statement of Attainment or Vocational Certificate.

Moderation

Moderation is a system designed and implemented to:

- provide comparability in the system of school-based assessment

- form the basis for valid and reliable assessment in senior secondary schools

- involve the ACT Board of Senior Secondary Studies and colleges in cooperation and partnership

- maintain the quality of school-based assessment and the credibility, validity and acceptability of Board certificates.

Moderation commences within individual colleges. Teachers develop assessment programs and instruments, apply assessment criteria, and allocate Unit Grades, according to the relevant Course Framework. Teachers within course teaching groups conduct consensus discussions to moderate marking or grading of individual assessment instruments and unit grade decisions.

The Moderation Model

Moderation within the ACT encompasses structured, consensus-based peer review of Unit Grades for all accredited courses over two Moderation Days. In addition to Moderation Days, there is statistical moderation of course scores, including small group procedures, for T courses.

Moderation by Structured, Consensus-based Peer Review

Consensus-based peer review involves the review of student work against system wide criteria and standards and the validation of Unit Grades. This is done by matching student performance with the criteria and standards outlined in the Achievement Standards, as stated in the Framework. Advice is then given to colleges to assist teachers with, or confirm, their judgments. In addition, feedback is given on the construction of assessment instruments.

Preparation for Structured, Consensus-based Peer Review

Each year, teachers of Year 11 are asked to retain originals or copies of student work completed in Semester 2. Similarly, teachers of a Year 12 class should retain originals or copies of student work completed in Semester 1. Assessment and other documentation required by the Office of the Board of Senior Secondary Studies should also be kept. Year 11 work from Semester 2 of the previous year is presented for review at Moderation Day 1 in March, and Year 12 work from Semester 1 is presented for review at Moderation Day 2 in August.

In the lead up to Moderation Day, a College Course Presentation (comprised of a document folder and a set of student portfolios) is prepared for each A, T and M course/units offered by the school and is sent into the Office of the Board of Senior Secondary Studies.

The College Course Presentation

The package of materials (College Course Presentation) presented by a college for review on Moderation Days in each course area will comprise the following:

- a folder containing supporting documentation as requested by the Office of the Board through memoranda to colleges, including marking schemes and rubrics for each assessment item

- a set of student portfolios containing marked and/or graded written and non-written assessment responses and completed criteria and standards feedback forms. Evidence of all assessment responses on which the Unit Grade decision has been made is to be included in the student review portfolios.

Specific requirements for subject areas and types of evidence to be presented for each Moderation Day will be outlined by the Board Secretariat through the *Requirements for Moderation Memoranda* and Information Papers.

Visual evidence for judgements made about practical performances

It is a requirement that schools' judgements of standards to practical performances (A-T-M) be supported by visual evidence (still photos or video).

The photographic evidence submitted must be drawn from practical skills performed as part of the assessment process.

Teachers should consult the BSSS website for current information regarding all moderation requirements including subject specific and photographic evidence.

Appendix B – Course Developers

Name	College
James Angus	Daramalan College
Dirk Wilkens	Erindale College
Robert Harriden	Hawker College
David Moss	Lake Tuggeranong College

Appendix C – Common Curriculum Elements

Common curriculum elements assist in the development of high-quality assessment tasks by encouraging breadth and depth and discrimination in levels of achievement.

Organisers	Elements	Examples
create, compose and apply	apply	ideas and procedures in unfamiliar situations, content and processes in non-routine settings
	compose	oral, written and multimodal texts, music, visual images, responses to complex topics, new outcomes
	represent	images, symbols or signs
	create	creative thinking to identify areas for change, growth and innovation, recognise opportunities, experiment to achieve innovative solutions, construct objects, imagine alternatives
	manipulate	images, text, data, points of view
analyse, synthesise and evaluate	justify	arguments, points of view, phenomena, choices
	hypothesise	statement/theory that can be tested by data
	extrapolate	trends, cause/effect, impact of a decision
	predict	data, trends, inferences
	evaluate	text, images, points of view, solutions, phenomenon, graphics
	test	validity of assumptions, ideas, procedures, strategies
	argue	trends, cause/effect, strengths and weaknesses
	reflect	on strengths and weaknesses
	synthesise	data and knowledge, points of view from several sources
	analyse	text, images, graphs, data, points of view
	examine	data, visual images, arguments, points of view
	investigate	issues, problems
organise, sequence and explain	sequence	text, data, relationships, arguments, patterns
	visualise	trends, futures, patterns, cause and effect
	compare/contrast	data, visual images, arguments, points of view
	discuss	issues, data, relationships, choices/options
	interpret	symbols, text, images, graphs
	explain	explicit/implicit assumptions, bias, themes/arguments, cause/effect, strengths/weaknesses
	translate	data, visual images, arguments, points of view
	assess	probabilities, choices/options
	select	main points, words, ideas in text
identify, summarise and plan	reproduce	information, data, words, images, graphics
	respond	data, visual images, arguments, points of view
	relate	events, processes, situations
	demonstrate	probabilities, choices/options
	describe	data, visual images, arguments, points of view
	plan	strategies, ideas in text, arguments
	classify	information, data, words, images
	identify	spatial relationships, patterns, interrelationships
	summarise	main points, words, ideas in text, review, draft and edit

Appendix D – Glossary of Verbs

Verbs	Definition
Analyse	Consider in detail for the purpose of finding meaning or relationships, and identifying patterns, similarities and differences
Apply	Use, utilise or employ in a particular situation
Argue	Give reasons for or against something
Assess	Make a Judgement about the value of
Classify	Arrange into named categories in order to sort, group or identify
Compare	Estimate, measure or note how things are similar or dissimilar
Compose	The activity that occurs when students produce written, spoken, or visual texts
Contrast	Compare in such a way as to emphasise differences
Create	Bring into existence, to originate
Demonstrate	Give a practical exhibition an explanation
Describe	Give an account of characteristics or features
Discuss	Talk or write about a topic, taking into account different issues or ideas
Evaluate	Examine and judge the merit or significance of something
Examine	Determine the nature or condition of
Explain	Provide additional information that demonstrates understanding of reasoning and /or application
Extrapolate	Infer from what is known
Hypothesise	Put forward a supposition or conjecture to account for certain facts and used as a basis for further investigation by which it may be proved or disproved
Identify	Recognise and name
Interpret	Draw meaning from
Investigate	Planning, inquiry into and drawing conclusions about
Justify	Show how argument or conclusion is right or reasonable
Manipulate	Adapt or change
Plan	Strategize, develop a series of steps, processes
Predict	Suggest what might happen in the future or as a consequence of something
Reflect	The thought process by which students develop an understanding and appreciation of their own learning. This process draws on both cognitive and affective experience
Relate	Tell or report about happenings, events or circumstances
Represent	Use words, images, symbols or signs to convey meaning
Reproduce	Copy or make close imitation
Respond	React to a person or text
Select	Choose in preference to another or others
Sequence	Arrange in order
Summarise	Give a brief statement of the main points
Synthesise	Combine elements (information/ideas/components) into a coherent whole
Test	Examine qualities or abilities
Translate	Express in another language or form, or in simpler terms
Visualise	The ability to decode, interpret, create, question, challenge and evaluate texts that communicate with visual images as well as, or rather than, words

Appendix E – Glossary for ACT Senior Secondary Curriculum

Courses will detail what teachers are expected to teach and students are expected to learn for year 11 and 12. They will describe the knowledge, understanding and skills that students will be expected to develop for each learning area across the years of schooling.

Learning areas are broad areas of the curriculum, including English, mathematics, science, the arts, languages, health and physical education.

A **subject** is a discrete area of study that is part of a learning area. There may be one or more subjects in a single learning area.

Frameworks are system documents for Years 11 and 12 which provide the basis for the development and accreditation of any course within a designated learning area. In addition, frameworks provide a common basis for assessment, moderation and reporting of student outcomes in courses based on the framework.

The **course** sets out the requirements for the implementation of a subject. Key elements of a course include the rationale, goals, content descriptions, assessment, and achievement standards as designated by the framework.

BSSS courses will be organised into units. A unit is a distinct focus of study within a course. A standard 1.0 unit is delivered for a minimum of 55 hours generally over one semester.

Core units are foundational units that provide students with the breadth of the subject.

Additional units are avenues of learning that cannot be provided for within the four core 1.0 standard units by an adjustment to the program of learning.

An **Independent Study unit** is a pedagogical approach that empowers students to make decisions about their own learning. Independent Study units can be proposed by a student and negotiated with their teacher but must meet the specific unit goals and content descriptions as they appear in the course.

An **elective** is a lens for demonstrating the content descriptions within a standard 1.0 or half standard 0.5 unit.

A **lens** is a particular focus or viewpoint within a broader study.

Content descriptions refer to the subject-based knowledge, understanding and skills to be taught and learned.

A **program of learning** is what a college develops to implement the course for a subject and to ensure that the content descriptions are taught and learned.

Achievement standards provide an indication of typical performance at five different levels (corresponding to grades A to E) following completion of study of senior secondary course content for units in a subject.

ACT senior secondary system **curriculum** comprises all BSSS approved courses of study.

Appendix F – Implementation of VET Qualifications

VET Qualifications

For Manufacturing and Engineering, Certificate I in Engineering the following packaging rules apply:

Units of competency to a value of 16 points must be achieved, chosen as outlined below:

- core unit of competency listed below (totalling 2 points); and
- elective units of competency to a value of 14 points.

Prerequisites

Points associated with prerequisites count towards the total. All prerequisites are included in the units listed.

This course, with listed competencies, meets these requirements at time of development.

Colleges are advised to check current training package requirements before delivery.

If the full requirements of a Certificate are not met, students will be awarded a Statement of Attainment listing Units of Competence achieved according to Standard 3 of the Standards for Registered Training Organisations (RTOs) 2015.

Competencies for Certificate I in Engineering

The competencies are listed in the order in which they are required to be delivered.

Code	Competency Title	Core/Elective	Points
MEM13015	**Work safely and effectively in manufacturing and engineering**	**Core**	**2**
MEM16006	Organise and communicate information	Elective	2
MEM11011	Undertake manual handling	Elective	2
MEM05012	Perform routine manual metal arc welding	Elective	2
MEM12023	Perform engineering measurements	Elective	5
MEM18001	Use hand tools	Elective	2
MEM05005	Carry out mechanical cutting	Elective	2
MEM18002	Use power tools/hand held operations	Elective	2
MEM05004	Perform routine oxy fuel gas welding	Elective	2

VET Competencies Mapped to Course Units

Grouping of competencies within units may not be changed by individual colleges.

Competencies designated at the Certificate I level can only be delivered by schools that have scope to do so.

Note: When selecting units, colleges must ensure that they follow packaging rules and meet the requirements for the Certificate level. In the event that full Certificate requirements are not met a Statement of Attainment will be issued.

The core competency must be delivered in the first unit, Working with Metal, as a prerequisite to subsequent competencies. The elective competencies are dependent on this sequence to meet Training Package prerequisites.

VET Implementation Summary

MEM10119 Certificate I in Engineering

BSSS Unit Title	Competencies	
Working with Metal	**MEM13015**	**Work safely and effectively in manufacturing and engineering**
	MEM16006	Organise and communicate information
	MEM11011	Undertake manual handling
Techniques in Metal Manufacture	MEM05012	Perform routine manual metal arc welding
	MEM12023	Perform engineering measurements
	MEM18001	Use hand tools
Welding and Cutting Skills	MEM05005	Carry out mechanical cutting
	MEM18002	Use power tools/hand held operations
Metal Project	MEM05004	Perform routine oxy fuel gas welding

Competency Based Assessment

The assessment of competence must focus on the competency standards and the associated elements as identified in the Training Package. Assessors must develop assessment strategies that enable them to obtain sufficient evidence to deem students competent. This evidence must be gathered over a number of assessment items. Competence to industry standard requires a student to be able to demonstrate the relevant skills and knowledge in a variety of industry contexts on repeated occasions. Assessment must be designed to collect evidence against the four dimensions of competency.

- **Task skills** – undertaking specific workplace task(s)

- **Task management skills** – managing a number of different tasks to complete a whole work activity

- **Contingency management skills** – responding to problems and irregularities when undertaking a work activity, such as: breakdowns, changes in routine, unexpected or atypical results, difficult or dissatisfied clients

- **Job/role environment skills** – dealing with the responsibilities and expectations of the work environment when undertaking a work activity, such as: working with others, interacting with clients and suppliers, complying with standard operating procedures or observing enterprise policy and procedures.

The most appropriate method of assessing workplace competence is on-the-job in an industry setting under normal working conditions. This includes using industry standard tools, equipment and job aids and working with trade colleagues. Where this is not available, a simulated workplace environment that mirrors the industry setting will be used. The following general principles and strategies apply:

- assessment is competency based

- assessment is criterion-referenced.

Quality outcomes can only be assured through the assessment process. The strategy for assessment is based on an integration of the workplace competencies for the learning modules into a holistic activity. The awarding of vocational qualifications is dependent on successful demonstration of the learning outcomes within the modules through the integrated competency assessment that meets the Training Package rules and requirements.

The integrated assessment activity will require the learner to:

- use the appropriate key competencies

- apply the skills and knowledge which underpin the process required to demonstrate competency in the workplace

- integrate the most critical aspects of the competencies for which workplace competency must be demonstrated

- provide evidence for grades and or scores for the Board course component of the assessment process.

Standards for Registered Training Organisations 2015

These Standards form part of the VET Quality Framework, a system which ensures the integrity of nationally recognised qualifications.

RTOs are required to comply with these Standards and with the:

- National Vocational Education and Training Regulator Act 2011

- VET Quality Framework.

The purpose of these Standards is to:

- set out the requirements that an organisation must meet in order to be an RTO

- ensure that training products delivered by RTOs meet the requirements of training packages or VET accredited courses, and have integrity for employment and further study

- ensure RTOs operate ethically with due consideration of learners' and enterprises' needs.

To access the standards, refer to:
https://www.legislation.gov.au/Details/F2017C00663

To access The Users' Guide to the Standards refer to:
https://www.asqa.gov.au/standards

Guidelines for Colleges Seeking Scope

Colleges must apply to have their scope of registration extended for each new qualification they seek to issue. There is no system-level process. Each college must demonstrate capacity to fulfil the requirements outlined in the Training Package. Applications for extension of scope are lodged through the Australian Skills Quality Authority (ASQA).

Appendix G – Course Adoption

Condition of Adoption

The course and units of this course are consistent with the philosophy and goals of the college and the adopting college has the human and physical resources to implement the course.

Adoption Process

Course adoption must be initiated electronically by an email to bssscertification@ed.act.edu.au by the principal or their nominated delegate.

The email will include the **Conditions of Adoption** statement above, and the table below adding the **College** name, and **A** and/or **T** and/or **M** and/or **V** to the **Classification/s** section of the table.

College:					
Course Title:	**Metal Products**				
Classification/s:	A M				
Framework:	**Industry and Services Framework 2017**				
Dates of Course Accreditation:		**from**	2020	**to**	2024