BSSS
AUSTRALIAN CAPITAL TERRITORY

Automotive Technology

A/M/V

Front Cover Art provided by Canberra College student Aidan Giddings

Table of Contents

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).

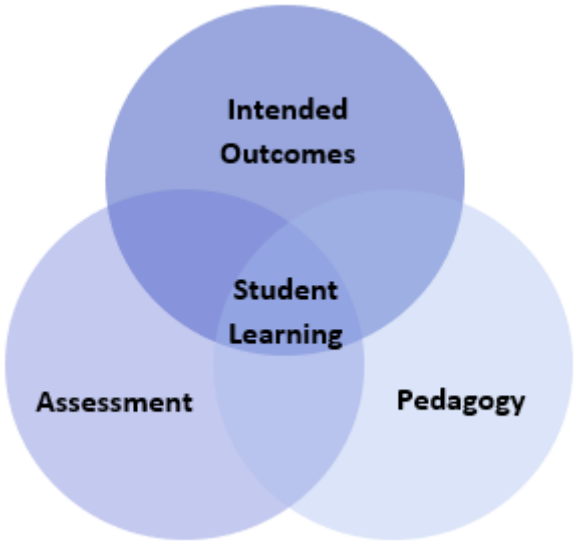
The BSSS credit arrangements recognise VET studies externally:

- 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 capability
- 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

Students develop literacy as they learn how to communicate ideas, concepts, and proposals to a variety of audiences. Students read and interpret written instructions for specific technologies, often including diagrams and procedural documents, such as user manuals. Students may write project outlines, concept proposals, evaluations, and project reports as well as specifications for maintenance.

The vocabulary used in Automotive Technology is often technical and includes specific terms for concepts, processes, materials, equipment, and maintenance. Students learn to understand that technological information is often presented in the form of drawings, diagrams, flow charts, tables, and graphs. They also learn the importance of listening, talking, and discussing the processes involved in technology particularly in articulating, questioning, and evaluating automotive practices, processes, and procedures.

Numeracy

Numeracy provides students with the opportunity to interpret and use mathematical knowledge and skills in a range of situations. Students use numbers to calculate, measure and estimate; interpret and draw conclusions; measure and record; develop, refine, and test concepts; and cost and sequence projects. When using software, materials, tools and equipment, students may work with the concepts of number, geometry, measurement, and volume. Students may interpret schematic drawings.

Information and Communication Technology (ICT) Capability

Students develop ICT capability when they enter or retrieve data using digital technologies and software applications according to organisational procedures.

Students develop skills using automotive diagnostic tools. They use ICT when they investigate and analyse information, evaluate maintenance ideas, and communicate and collaborate online. They develop ideas and communicate their solutions using digital technologies, for example: emails, record work on a job card, inspection reports, online conference with a client.

Critical and Creative Thinking

Students develop capability in critical and creative thinking as they imagine, generate, develop, and evaluate ideas for their practical applications. Students will interact with others in analysing problems, refining their ideas, creating solutions, and justifying their ideas.

Students may incorporate the use of technology to assist in problem solving. Students will identify and explore suitable technologies and incorporate that knowledge into a range of situations.

Students consider how data, information, systems, materials, tools, and equipment (past and present) impact upon our lives, and how these may be better designed and managed. Experimenting, drawing, and applying skills that help students to build their visual and spatial thinking and create solutions in solving problems.

Personal and Social Capability

Students develop personal and social capability by developing their social awareness when they work in a collaborative workspace. Students direct their own learning, plan, and carry out investigations, and become independent learners who can apply problem solving, technologies understanding and skills when making decisions. They develop social and employability skills through working cooperatively in teams, sharing resources and processes, making group decisions, resolving conflict, and showing leadership.

The Automotive learning area enhances students' personal and social capability by developing their social awareness. Students develop understanding of diversity by researching and identifying user needs. Students consider the impact their decisions have on people, communities and environments and develop social responsibility through understanding of, empathy with and respect for others.

Ethical Understanding

Students develop the capacity to understand and apply ethical and socially responsible principles when collaborating with others and creating, sharing, and using technologies – materials, data, processes, tools, and equipment. Students investigate past, current, and future technological priorities in automotive technology. When engaged in systems thinking, students evaluate their findings against the criteria of environmental sustainability, health, social awareness, business-client relationships, and Work Health and Safety. They explore issues associated with technologies and consider possibilities. Students are encouraged to develop values and attitudes.

Students learn about safe and ethical procedures for investigating and working with people, data, and materials. They consider the rights of others and their responsibilities in using sustainable practices that protect the planet. They learn to appreciate and value the part they play in the social and natural systems in which they operate.

Students consider their own roles and responsibilities as discerning citizens and learn to detect bias and inaccuracies in information sources. Understanding the protection of data, intellectual property and individual privacy in the school environment helps students to be ethical digital citizens.

Intercultural Understanding

Students consider how technologies are used in diverse communities, including their impact and potential to transform people's lives. They explore ways in which past and present practices enable people to use technologies to interact with one another across cultural boundaries. Students investigate how cultural identities and traditions influence the function and form of solutions, products, services, and environments designed to meet the needs of daily life in the present and in the future.

In their interactions with others in online communities, students consider the dynamic and complex nature of cultures, including values, beliefs, practices, and assumptions. They recognise and respond to the challenges of cultural diversity by applying appropriate social protocols. Students learn about the interactions between technologies and society and take responsibility for securing positive outcomes for members of all cultural groups including those faced with prejudice and misunderstanding.

Cross-Curriculum Priorities

Aboriginal and Torres Strait Islander Histories and Cultures

The Aboriginal and Torres Strait Islander histories and cultures priority provides the opportunity for all young Australians to gain a deeper understanding and appreciation of Aboriginal and Torres Strait Islander histories and cultures, deep knowledge traditions and holistic world views. This knowledge and understanding will enrich all learners' ability to participate positively in the ongoing development of Australia through a deepening knowledge and connection with the world's oldest continuous living cultures.

Students engage with the Aboriginal and Torres Strait Islander histories and cultures priority in Automotive Technology when utilising the 8 Aboriginal Ways of Learning, such as learning through deconstructing and reconstructing and the use of non-verbal applications, kinaesthetic, hands-on learning when undertaking practical applications. They develop collaborative communication practices through the involvement in Yarning Circles, encouraging responsible and respectful interactions between participants. Respect for Country is fostered in understanding and following sustainable practices.

Asia and Australia's Engagement with Asia

The Asia and Australia's engagement with Asia priority provides the opportunity for students to celebrate the social, cultural, political, and economic links that connect Australia with Asia. This priority will ensure that students learn about and recognise the diversity within and between the countries of the Asia region. They will develop knowledge and understanding of Asian societies, cultures, beliefs and environments, and the connections between the peoples of Asia, Australia, and the rest of the world. Asia literacy provides students with the skills to communicate and engage with the peoples of Asia so they can effectively live, work and learn in the region.

Students engage with the Asia and Australia's engagement with Asia priority in Automotive Technology when investigating existing and emerging automotive regional manufacturing industries, the leadership of Asian companies within the industry, and the supply of automotive components, materials, and tools to Australia from the region. They investigate the history of automotive industries across the region and how these impact the automotive maintenance industry.

Sustainability

The Sustainability priority provides the opportunity for students to develop an appreciation of the necessity of acting for a more sustainable future and so address the ongoing capacity of Earth to maintain all life and meet the needs of the present without compromising the needs of future generations. This priority will allow all young Australians to develop the knowledge, skills, values, and world views necessary for them to act in ways that contribute to more sustainable patterns of living. It will enable individuals and communities to reflect on ways of interpreting and engaging with the world. The Sustainability priority is futures-oriented, focusing on protecting environments and creating a more ecologically and socially just world through informed action. Actions that support more sustainable patterns of living require consideration of environmental, social, cultural, and economic systems and their interdependence.

The Sustainability priority is futures-oriented and calls on students to act sustainably as individuals and to participate in collective endeavours that are shared across local, regional, and global communities. It emphasises the interdependence of environmental, social, cultural, and economic systems.

Students engage with the Sustainability priority in Automotive Technology when investigating and applying environmental and sustainability considerations in the repair and maintenance of vehicles and the selection and disposal of materials. They investigate emerging automotive technology which aims to address environmental issues, the opportunities, and inhibitors with their uptake in Australia, reflecting on local, national, regional, and global outcomes.

Automotive Technology

A/M/V

Rationale

Automotive Technology A-M-V develops the knowledge, understanding and skills that underpin the automotive technology industry. Students investigate automotive components, systems, and technologies, and understand their interactions and relationships. They examine new and emerging technologies which impact the automotive industry, the careers available and the changing skill sets required for their implementation.

Key concepts and ideas in *Automotive Technology A-M-V* include the purpose of automotive business and occupations, future directions, and trends. Industry practices and processes for a variety of purpose are explored and applied across a range of subsets within the industry and as such allows for investigation in a diverse range of occupations within the sector. Through both individual and collaborative learning experiences, students learn to meet employer expectations and establish productive and appropriate work habits.

Participating in industry specific tasks promotes the development of adaptable, competent, self-motivated individuals who consider safety and work collaboratively with colleagues. Students develop skills in communicating orally, and in written and graphical modes and apply these to industry requirements such as writing reports and in customer service applications. They plan, select, and organize parts and processes to achieve desired automotive outcomes when repairing and maintaining automotive systems, taking into consideration sustainable practices and environmental considerations.

Students develop relevant technical, vocational, and interpersonal competencies suitable for employment and further training in the automotive industry. It also allows the development of employability skills such as communication and teamwork which are transferable to other industry areas. Through the study of this subject, students will gain experiences that can be applied in a range of contexts, including work, study and recreation that will assist them to make informed choices. The *Automotive Technology A-M-V* course provides opportunities to complete VET qualifications or a Statement of Attainment from the Automotive, Retail, Service and Repair Training Package (AUR).

Goals

This course should enable students to:

- analyse industry practices, processes, and procedures
- analyse theories and concepts
- analyse technical information, equipment specifications, materials, and resources
- analyse plans and results using the principles of sustainability and ethics
- synthesise industry and services knowledge and skills to innovate, plan and develop products and services
- apply project management skills to organise resources and material to create quality products and services
- apply Work Health and Safety principles and industry standards when working independently and collaboratively
- apply communication, interpersonal and intrapersonal skills in a range of modes, mediums, and professional contexts
- apply industry specific literacy, numeracy, and ICT skills for planning, designing, and implementing industry applications
- reflect on learning, success, and setbacks to make improvements to support resilience, safe risk taking and an improvement mindset.

Unit Titles

- Automotive Principles
- Automotive Electrical Systems
- Vehicle Components and Systems
- Automotive Drive Systems
- Independent Study

Organisation of Content

Automotive Principles

In this unit, students investigate the systems within engines. Students develop knowledge and understanding of systems and faults. They evaluate and apply skills for repairs using appropriate tools and techniques in line with WHS practices. They examine the nature, purpose, and differences of automotive engine systems in various vehicles.

Automotive Electrical Systems

In this unit, students investigate the electrical systems and their configurations that are found within the automotive industry. Students examine the nature, purpose, and differences of interrelated automotive electrical systems in various vehicles. They develop knowledge and understanding of systems and elementary faults and failures. Students apply skills for repairs using appropriate tools and techniques in line with WHS practices.

Vehicle Components and Systems

In this unit, students explore vehicle components and systems. They investigate the function of various traditional and modern components and systems and identify functional concerns. Students investigate the repair and maintenance of components, proposing and considering environmental and sustainable practices. They develop skills utilising industry specific equipment, practices and tools in the maintenance and repair of vehicle components and systems complying with WHS practices.

Automotive Drive Systems

In this unit, students will investigate various existing and emerging drive systems. They develop and understanding of multicylinder engines, their energy sources and the systems used in the transfer of power to the drivetrain. They examine the nature, purpose, and differences of automotive drive systems in various vehicles. Students evaluate and apply skills for repairs using appropriate tools and techniques in line with WHS practices.

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 or fourth 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

Suggested Tasks include:

- continuous observation
- cooperative task
- demonstration drawings
- folio
- group project
- individual project/activity
- planning tasks
- presentations
- research assignment
- research project
- risk assessments
- workplace simulation
- real-life project implementation
- reflection and evaluation report
- test
- validation task

No task should be greater than 60% for a 1.0 or 0.5 unit

Additional Assessment Advice

- 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.
- Each assessment item must enable students to demonstrate higher order thinking.
- Duration or length of student responses should be determined by the nature of the task and requirements of the Achievement Standards.
- For tasks completed in unsupervised conditions, schools need to have mechanisms to uphold academic integrity, for example: assessment design, student declaration, plagiarism software, oral defence, interview, or other validation tasks.

Achievement Standards

Student achievement in **A** and **M** units is reported based on system standards as an A - E grade. Grade descriptors and standard work samples where available, provide a guide for teacher judgement of students' achievement over the unit.

Grades are awarded on the proviso that the assessment requirements have been met. Teachers will consider, when allocating grades, the degree to which students demonstrate their ability to complete and submit tasks within a specified time frame.

Achievement Standards Industry and Services Year 12 A

	A	B	C	D	E
Knowledge and Understanding	• analyse relevant practices and procedures to make plausible conclusions • analyse a range theories and concepts to draw own conclusion • analyse a range of relevant technical information and specifications for a variety of equipment and resources • analyse a range of materials or resources to enhance a product or service • analyse plans and results using the principles of sustainability or ethics to make plausible conclusions	• explain practices and procedures with examples required to complete the task • explain theories and concepts relevant to an industry and services context • explain a range of relevant technical information and specifications for equipment and resources • explain a range of materials or resources for a product or service • explain how their plans and results are sustainable or ethical using research	• describe practices and procedures required to complete the task • describe theories and concepts relevant to an industry and services context • describe a range of technical information and specifications for required equipment and resources • describe a range of materials or resources used in a product or service • describe sustainable or ethical plans and results	• describe some practices and procedures within a task • identify theories and concepts relevant to an industry and services context • describe some technical information and equipment specifications • identify relevant materials or resources used in a product or service • identify sustainable or ethical plans and results	• describe some practices and procedures with limited accuracy • identify some theories and concepts relevant to an industry and services context • describe some technical information and equipment specifications with limited accuracy • identify some materials or resources used in a product or service • identify sustainable or ethical plans or results with limited accuracy
Skills	• create products or services to an industry standard for familiar and unfamiliar contexts • synthesise knowledge understanding and practical skills to solve non-routine problems efficiently • apply project management skills for planning and undertaking tasks efficiently to completion • apply relevant terminology and communication skills to clearly justify ideas and proposals • apply transferable work skills to work effectively in familiar and unfamiliar contexts • apply Work Health and Safety principles to self and others using best practice in familiar and unfamiliar contexts • reflect with insight on learning, successes, and setbacks and accurately to propose well-reasoned improvements	• create products or services to an industry standard with some success for familiar and unfamiliar contexts • apply knowledge understanding and practical skills to solve non-routine problems • apply project management skills to planning and undertaking tasks to completion • apply relevant terminology and communication skills to justify ideas and proposals • apply transferable work skills in a range of familiar and unfamiliar contexts • apply Work Health and Safety principles to self and others with some independence in familiar and unfamiliar contexts • reflect on learning, successes, and setbacks accurately to propose plausible improvements	• create products or services to an industry standard with direction for familiar contexts • use knowledge understanding and practical skills under direction to solve routine problems • uses plans and keep to schedules under direction to completion • use relevant terminology and communication protocols and processes to explain ideas and proposals • use transferable work skills to work effectively under direction for familiar contexts • follow Work Health and Safety protocols and processes for self with limited direction for familiar contexts • reflect on learning, successes, and setbacks accurately to propose improvements	• create products or services with some functionality with direction in familiar contexts • use knowledge understanding and practical skills under direction to attempt to solve routine problems • use plans and schedules under direction with limited success • use relevant terminology and communication protocols and processes to describe ideas and proposals • use transferable work skills to work effectively under direction for familiar contexts with some success • follow Work Health and Safety protocols and processes for self with direction for familiar contexts • reflect on learning, successes, and setbacks to propose improvements	• create products or services with limited functionality with direction in familiar contexts • use knowledge understanding and practical skills under direction to attempt to solve simple problems • attempts to follow plans and schedules • use relevant terminology and communication protocols and processes to attempt to describe ideas and proposals • use a limited set of transferable work skills in familiar contexts under direction • follow Work Health and Safety protocols and processes for self with regular direction for familiar contexts • reflect on learning, successes, and setbacks with direction

Achievement Standards Industry and Services Year 11 A

	A	B	C	D	E
Knowledge and Understanding	• analyse relevant practices or procedures to make plausible conclusions • analyse theories and concepts in a response relevant to an industry and services context • analyse relevant technical information and specifications for equipment and resources • analyse materials or resources suitable for a product or service • analyse plans and results using the principles of sustainability or ethics	• explain relevant practices or procedures with examples in a response • explain theories and concepts relevant to an industry and services context • explain relevant technical information and specifications for equipment and resources • explain choices of materials or resources for a product or service • explain how their plans and results are sustainable or ethical	• describe practices or procedures required to complete the task • describe theories and concepts relevant to an industry and services context • describe technical information and specifications for equipment and resources • describe materials or resources chosen for a product or service • describe sustainable or ethical plans and results	• describe some practices or procedures required to complete the task • identify theories and concepts relevant to an industry and services context • describe some technical information and specifications for equipment and resources • identify materials or resources chosen for a product or service • identify sustainable or ethical plans and results	• describe some practices or procedures required to complete the task with limited accuracy • identify concepts relevant to an industry and services context • describe some technical information and specifications for equipment and resources with limited accuracy • identify some materials or resources chosen for a product or service • identify sustainable or ethical plans and results limited accuracy
Skills	• create products or services to an industry standard with some success for familiar and unfamiliar contexts • apply knowledge, understanding and practical skills with some independence to solve non-routine problems • apply project management skills to planning and undertaking tasks effectively • apply relevant terminology and communication skills to justify ideas and proposals • apply transferable work skills in range of professional contexts in familiar and unfamiliar contexts with some direction • apply Work Health and Safety principles to self and others in familiar and unfamiliar contexts • reflect with insight on learning, successes, and setbacks and accurately to propose well-reasoned improvements	• create products or services to an industry standard with direction for familiar contexts • use knowledge, understanding and practical skills under direction to solve routine problems • uses plans and keep to schedules under limited direction with success • use relevant terminology and communication skills to explain ideas and proposals • use transferable work skills in range of professional contexts under direction for familiar contexts • apply Work Health and Safety principles to self with some success in familiar and unfamiliar contexts • reflect on learning, successes, and setbacks accurately to propose plausible improvements	• create products or services with some functionality with direction for familiar contexts • use knowledge, understanding and practical skills under direction to attempt to solve routine problems • use plans and schedules under direction with success • use relevant terminology and communication protocols and processes to attempt to explain ideas and proposals • use transferable work skills in professional contexts under direction with some success for familiar contexts • follow Work Health and Safety protocols and processes for self with limited direction for familiar contexts • reflect on learning, successes, and setbacks accurately to propose improvements	• create products or services with limited functionality with direction for familiar contexts • use knowledge, understanding and practical skills under direction to attempt to solve simple problems • attempt to follow plans and schedules under direction with some success • use terminology and communication protocols and processes to describe ideas and proposals • use a limited set of transferable work skills in familiar professional contexts under direction • follow Work Health and Safety protocols and processes for self with direction for familiar contexts • reflect on learning, successes, and setbacks to propose improvements	• create components of products or services for familiar contexts • use knowledge, understanding and practical skills to attempt to solve simple problems under direction with limited success • attempts to follow plans and schedules under direction with limited success • use terminology and communication protocols and processes with assistance to identify ideas and proposals • use basic transferable work skills in familiar professional contexts under direction • follow Work Health and Safety protocols and processes for self with regular direction for familiar contexts • reflect on learning, successes, and setbacks with direction

Achievement Standards Industry and Services M

	A	B	C	D	E
Knowledge and Understanding	• describe industry practices and procedures independently • describe technical information and specifications independently • describe ethical and sustainable practices independently	• describe industry practices and procedures with some assistance • describe technical information and specifications with some assistance • describe ethical and sustainable practices with some assistance	• describe industry practices and procedures with assistance • describe technical information and specifications with assistance • recount ethical and sustainable practices with assistance	• identify industry practices and procedures with continuous guidance • identify technical information with continuous guidance • recount ethical and sustainable practices with continual guidance	• identify some industry practices, and procedures with direct instruction • identify some technical information with direct instruction • recount ethical and sustainable practices with direct instruction
Skills	• use industry practices, and procedures to deliver a service and/or create a product independently • use technical information and specifications to create products and/or services independently • demonstrate industry specific literacy and numeracy skills to a range of tasks independently • demonstrate work, health, and safety practices independently • demonstrate behaviours and attitudes that contribute positively to industry tasks independently • communicate ideas using appropriate terminology independently • reflect on learning to propose improvements independently	• use industry practices, and procedures to deliver a service and/or create a product with some assistance • use technical information and specifications to create products and/or services with some assistance • demonstrate industry specific literacy and numeracy skills to a range of tasks with some assistance • demonstrate work, health, and safety practices with some assistance • demonstrate behaviours and attitudes that contribute positively to industry tasks with some assistance • communicate ideas using appropriate terminology with some assistance • reflect on learning to propose improvements with some assistance	• use industry practices, and procedures to deliver a service and/or create a product with assistance • use technical information and specifications to create products and/or services with assistance • demonstrate industry specific literacy and numeracy skills to a range of tasks with assistance • demonstrate work, health, and safety practices with assistance • demonstrate behaviours and attitudes that contribute positively to industry tasks with assistance • communicate ideas using appropriate terminology with assistance • reflect on learning to propose improvements with assistance	• follow industry practices, and procedures to deliver a service and/or create a product with continuous guidance • use technical information and specifications to create products and/or services with continuous guidance • demonstrate industry specific literacy and numeracy skills to a range of tasks with continuous guidance • demonstrate work, health, and safety directions with continuous guidance • demonstrate behaviours and attitudes that contribute positively to industry tasks with continuous guidance • communicate ideas using appropriate terminology with continuous guidance • reflect on learning to propose improvements with continuous guidance	• follow industry practices and procedures to deliver a service and/or create a product with direct instruction • apply technical information and specifications to products and/or services with direct instruction • demonstrate industry specific literacy and numeracy skills to a range of tasks with direct instruction • demonstrate work, health, and safety practices with direct instruction • demonstrate behaviours and attitudes that contribute positively to industry tasks with direct instruction • communicate ideas using appropriate terminology with direct instruction • reflect on learning to propose improvements with direct instruction

Automotive Principles — Value: 1.0

Automotive Principles a — **Value 0.5**

Automotive Principles b — **Value 0.5**

Unit Description

In this unit, students investigate the systems within engines. Students develop knowledge and understanding of systems and faults. They evaluate and apply skills for repairs using appropriate tools and techniques in line with WHS practices. They examine the nature, purpose, and differences of automotive engine systems in various vehicles.

Specific Unit Goals

This unit should enable students to:

A Course	M Course
• analyse engine systems and functions	• describe independently engine systems and functions
• analyse the nature, purpose, and differences of various automotive engine systems	• describe independently the nature and purpose of basic automotive engine systems
• apply skills in the use of automotive tools and equipment used for the maintenance and repair of engine systems	• apply skills in the use of automotive tools and equipment
• apply knowledge and understanding of engine systems and the repair of common faults	• apply knowledge and understanding of engine systems to complete procedures

Content Descriptions

All knowledge, understanding and skills below must be delivered:

A Course	M Course
Knowledge and Understanding	
• analyse industry practices, processes and procedures used in the service, and repair of engine systems, for example, fuel intake, exhaust, oil, and cooling	• describe industry practices, processes and procedures in the service and repair of engine systems, for example, fuel intake and lubrication
• analyse advancements in various vehicle engine systems, reflecting on implications for servicing, repair, and replacement, including sustainability concerns, for example, fuel delivery systems, emission control, and cooling system	• describe vehicle engine components and systems, for example, fuel delivery systems
• evaluate WHS practices and procedures, and analyse their application in workplace or work contexts, for example, tool selection, lifting procedures, safe handling of fuels, oils, lubricants, and automotive workshop PPE, ethical conduct	• describe electrical WHS practices and procedures, for example, tool selection and safe handling of fuels, oils, lubricants

A Course	M Course
• analyse technical information, specifications, tools, and equipment for the repair and servicing of engines, for example, online resources, workshop manual, service booklets, operator manual, hand, power, and pneumatic tool procedures, diagnostic tools, vehicle lifts, jacks, hoists and stands • analyse the structure and function of engine systems to understand and propose solutions to faults, for example, applying engine diagnosis techniques and procedures	• describe technical information, tools, and equipment for the repair and servicing of engine systems, for example, online resources, workshop manual, service booklets, operator manual, hand, power, and pneumatic tool procedures, diagnostic tools
Skills	
• apply industry practices, processes, and procedures, including project management skills, with high proficiency for maintenance and repair of engine systems with adherence to WHS practices	• apply knowledge of engine components or systems to identify and follow appropriate procedures with adherence to WHS practices
• apply principles of ethics and sustainability to assess automotive technical and enterprise practices, for example, obligations to colleagues and clients, disposal of waste	• describe ethical and sustainable business practices in automotive contexts
• synthesise knowledge, understanding and critical and creative thinking and problem-solving skills to pose justified solutions	• apply technical information to complete tasks
• create informative texts or models for automotive principles, for example, how to videos, manuals, auto-services advertising	• create information texts or models about automotive principles
• apply academic integrity in communicating research and conclusions or creating plans and solutions	• use reliable information to develop ideas and plans
• apply industry specific literacy and numeracy skills, using industry metalanguage in a wide range of tasks and settings	• demonstrate industry specific literacy numeracy, and appropriate terminology to a range of tasks
• apply communication skills for a variety of audiences and purposes, including industry specific applications	• communicate ideas for industry purposes, for example workplace simulations and teamwork
• apply independent transferable work and collaboration skills to a variety of tasks to achieve work outcomes	• demonstrate behaviours and attitudes to complete collaborative tasks
• reflect on learning, proposing, and implementing strategies for the future	• reflect on learning habits for improvement

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/M 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/M 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/M content descriptions.

Units of Competency

This course is mapped to allow students to achieve **Certificate I in Automotive Vocational Preparation** or **Certificate II in Automotive Vocational Preparation**. A transition period for the phasing out of **AUR10120 - Certificate I in Automotive Vocational Preparation** will take place during the period 2023 – 2025. The 2025 Year 12 cohort will be the final cohort able to receive this qualification. See implementation table below.

	Year 11	**Year 12**
2023	Certificate I available to commence	Certificate I available to complete
2024	Certificate I available to commence (last cohort to begin Certificate I)	Certificate I available to complete
2025	Certificate II only to commence	Certificate I available to complete for 2025 cohort only
2026	Certificate II only to commence	Certificate II only available to complete

Competence must be demonstrated over time and in the full range of Automotive Vocational Preparation contexts. Teachers must use this unit document in conjunction with the Units of Competence from the **Certificate I in Automotive Vocational Preparation** or **Certificate II in Automotive Vocational Preparation**, 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.

The **Automotive Technology A/M/V** course offers the provision for the attainment of the following vocation qualifications:

AUR10120 - Certificate I in Automotive Vocational Preparation (2023 – 2025)

AUR20720 - Certificate II in Automotive Vocational Preparation

Statement of Attainment in AUR20720 - Certificate II in Automotive Vocational Preparation

AUR10120 - Certificate I in Automotive Vocational Preparation

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

Code	Competency Title
AURAEA001	**Identify environmental and sustainability requirements in an automotive service or repair workplace**
AURASA001	**Apply automotive workplace safety fundamentals**

Any **elective competencies** selected to meet packaging rules from the list below may also be delivered:

Code	Competency Title
AURTTE003	Remove and tag engine system components

AUR20720 - Certificate II in Automotive Vocational Preparation

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

Code	Competency Title
AURASA002	**Follow safe working practices in an automotive workplace**

The following **elective competencies** from the chosen specialist elective group **must be delivered and assessed** over the semester:

Code	Competency Title
AURTTE003	Remove and tag engine system components

All competencies must be delivered in the defined unit but may also be included as an additional competency in any other unit.

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

Assessment

Refer to pages 11-12.

Automotive Electrical Systems — Value: 1.0

Automotive Electrical Systems a — **Value 0.5**

Automotive Electrical Systems b — **Value 0.5**

Unit Description

In this unit, students investigate the electrical systems and their configurations that are found within the automotive industry. Students examine the nature, purpose, and differences of interrelated automotive electrical systems in various vehicles. They develop knowledge and understanding of systems and elementary faults and failures. Students apply skills for repairs using appropriate tools and techniques in line with WHS practices.

Specific Unit Goals

This unit should enable students to:

A Course	M Course
• analyse automotive electrical systems and components • analyse the nature and purpose of various automotive electrical systems and components • apply skills used in automotive electrical system testing and repairs • apply knowledge and understanding of electrical systems and elementary faults	• describe automotive electrical systems and components • describe the tools and practices for working with various automotive electrical systems and components • apply skills in the use of automotive electrical system testing and repairs • apply knowledge and understanding of electrical components and systems to complete procedures

Content Descriptions

All knowledge, understanding and skills below must be delivered:

A Course	M Course
Knowledge and Understanding	
• analyse industry practices, processes and procedures used in the service, and repair of vehicle electrical systems, for example, ignition, starting, charging, and lighting systems • analyse advancements in various vehicle electrical systems and components, reflecting on implications for servicing, repair, and replacement, including sustainability concerns, for example, alternators, battery systems, control modules, and starter motors • evaluate WHS practices and procedures, and analyse their application in workplace or work contexts, for example, circuit testing, battery replacement and charging, high voltage contexts, and soldering	• describe industry practices, processes and procedures in the service and repair of vehicle electrical systems • describe vehicle electrical systems and components, for example, battery and lighting systems • describe electrical WHS practices and procedures, for example, battery replacement, charging and soldering

A Course	M Course
• analyse technical information, specifications, tools, and equipment for the repair and servicing of electrical automotive systems, for example, battery tester/charger, multi-meters, test light, soldering iron • analyse the structure and function of various automotive electrical systems to understand and propose solutions to faults, for example, electrical circuits, relays, charging, lighting, and ignition systems	• describe technical information, tools, and equipment for the repair and servicing of electrical automotive systems for example, battery tester/charger, multi-meters, test light, soldering iron
Skills	
• apply industry practices, processes, and procedures, including project management skills, with high proficiency for maintenance and repair of engine systems with adherence to WHS practices	• apply knowledge of electrical components or systems to identify and follow appropriate procedures with adherence to WHS practices
• apply principles of ethics and sustainability to assess automotive technical and enterprise practices, for example, obligations to colleagues and clients, disposal of waste	• describe ethical and sustainable business practices in automotive contexts
• synthesise knowledge, understanding and critical and creative thinking and problem-solving skills to pose justified solutions	• apply technical information to complete tasks
• create informative texts or models for electrical systems, for example, how to videos, manuals, auto-services advertising	• create information texts or models about electrical systems
• apply academic integrity in communicating research, conclusions, plans or solutions	• use reliable information to develop ideas and plans
• apply industry specific literacy and numeracy skills, using industry metalanguage in a wide range of tasks and settings	• demonstrate industry specific literacy numeracy, and appropriate terminology to a range of tasks
• apply communication skills for a variety of audiences and purposes, including industry specific applications	• communicate ideas for industry purposes, for example workplace simulations and teamwork
• apply independent transferable work and collaboration skills to a variety of tasks to achieve work outcomes	• demonstrate behaviours and attitudes to complete collaborative tasks
• reflect on learning, proposing, and implementing strategies for the future	• reflect on learning habits for improvement

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/M 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/M 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/M content descriptions.

Units of Competency

This course is mapped to allow students to achieve **Certificate I in Automotive Vocational Preparation** or **Certificate II in Automotive Vocational Preparation**. A transition period for the phasing out of **AUR10120 - Certificate I in Automotive Vocational Preparation** will take place during the period 2023 – 2025. The 2025 Year 12 cohort will be the final cohort able to receive this qualification. See implementation table below.

	Year 11	**Year 12**
2023	Certificate I available to commence	Certificate I available to complete
2024	Certificate I available to commence (last cohort to begin Certificate I)	Certificate I available to complete
2025	Certificate II only to commence	Certificate I available to complete for 2025 cohort only
2026	Certificate II only to commence	Certificate II only available to complete

Competence must be demonstrated over time and in the full range of Automotive Vocational Preparation contexts. Teachers must use this unit document in conjunction with the Units of Competence from the **Certificate I in Automotive Vocational Preparation** or **Certificate II in Automotive Vocational Preparation**, 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.

The **Automotive Technology A/M/V** course offers the provision for the attainment of the following vocation qualifications:

AUR10120 - Certificate I in Automotive Vocational Preparation (2023 – 2025)

AUR20720 - Certificate II in Automotive Vocational Preparation

Statement of Attainment in AUR20720 - Certificate II in Automotive Vocational Preparation

AUR10120 - Certificate I in Automotive Vocational Preparation

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

Code	Competency Title
AURETR103	**Identify automotive electrical systems and components**

Any **elective competencies** selected to meet packaging rules from the list below may also be delivered:

Code	Competency Title		Code	Competency Title
AURETK001	Identify, select, and use low voltage electrical test equipment	**OR**	AURETR006	Solder electrical wiring and circuits

AUR20720 - Certificate II in Automotive Vocational Preparation

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

Code	Competency Title
AURAFA104	**Resolve routine problems in an automotive workplace**
AURETR103	**Identify automotive electrical systems and components**

The following **elective competencies** from the chosen specialist elective group **must be delivered and assessed** over the semester:

Code	Competency Title
AURETK001	Identify, select, and use low voltage electrical test equipment
AURETR006	Solder electrical wiring and circuits

All competencies must be delivered in the defined unit but may also be included as an additional competency in any other unit.

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

Assessment

Refer to pages 11-12.

Vehicle Components and Systems — Value: 1.0

Vehicle Components and Systems a — **Value 0.5**

Vehicle Components and Systems b — **Value 0.5**

Unit Description

In this unit, students explore vehicle components and systems. They investigate the function of various traditional and modern components and systems and identify functional concerns. Students investigate the repair and maintenance of components, proposing and considering environmental and sustainable practices. They develop skills utilising industry specific equipment, practices and tools in the maintenance and repair of vehicle components and systems complying with WHS practices.

Specific Unit Goals

This unit should enable students to:

A Course	M Course
• analyse traditional and modern automotive components and systems • analyse equipment, tools and practices used in the maintenance and repair of vehicle components and systems • apply skills in the use of equipment and tools used for the repair and maintenance of automotive components and systems • apply knowledge and understanding of components and systems to solve problems	• describe automotive components and systems • describe equipment, tools and practices used in the maintenance and repair of vehicle components and systems • apply skills in the use of equipment and tools • apply knowledge and understanding of components and systems to solve problems

Content Descriptions

All knowledge, understanding and skills below must be delivered:

A Course	M Course
Knowledge and Understanding	
• analyse industry practices, processes and procedures in the service and repair of vehicle systems and components, for example, component removal, inspection, repair, and storage • analyse traditional and modern automotive components and systems, and advancements in technology and reflect on implications for servicing, repair, and replacement, for example, braking systems, suspensions, fuel systems, and cooling systems • analyse environmental and sustainable practices in the maintenance, repair, replacement, and disposal of vehicle systems and components, for example, tyres, lubricants, and liquids	• describe industry practices, processes and procedures in the service and repair of vehicle systems or components, for example, component removal and storage • describe automotive components or systems, for example, braking systems, suspensions, fuel systems, and cooling systems • demonstrate environmental and sustainable practices in the maintenance and disposal of vehicle components, for example, tyres, lubricants, and liquids

A Course	M Course
• analyse technical information, specifications, tools and equipment for the repair and servicing of vehicle components and systems, for example, online resources, workshop manual, service booklets, operator manual, hand, power, and pneumatic tool procedures, diagnostic tools, vehicle lifts, jacks, hoists and stands • analyse the structure and function of traditional and modern vehicle components and systems to understand and solve problems, for example, braking and steering components and systems	• describe technical information, tools and equipment for the repair and servicing of vehicle components, for example, online resources, workshop manual, service booklets, operator manual, hand, power, and pneumatic tool procedures
Skills	
• apply industry practices, processes, and procedures, including project management skills, with high proficiency for maintenance and repair of engine systems with adherence to WHS practices	• apply knowledge of vehicle components or systems to identify and follow appropriate procedures with adherence to WHS practices
• apply principles of ethics and sustainability to assess automotive technical and enterprise practices, for example, obligations to colleagues and clients, disposal of waste	• describe ethical and sustainable business practices in automotive contexts
• synthesise knowledge, understanding and critical and creative thinking and problem-solving skills to pose justified solutions	• apply technical information to complete tasks
• create informative texts or models about components and systems, for example, how to videos, manuals, auto-services advertising	• create information texts or models about automotive principles
• apply academic integrity in communicating research, conclusions, plans or solutions	• use reliable information to develop ideas and plans
• apply industry specific literacy and numeracy skills, using industry metalanguage in a wide range of tasks and settings	• demonstrate industry specific literacy numeracy, and appropriate terminology to a range of tasks
• apply communication skills for a variety of audiences and purposes, including industry specific applications	• communicate ideas for industry purposes, for example workplace simulations and teamwork
• apply independent transferable work and collaboration skills to a variety of tasks to achieve work outcomes	• demonstrate behaviours and attitudes to complete collaborative tasks
• reflect on learning, proposing, and implementing strategies for the future	• reflect on learning habits for improvement

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/M 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/M 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/M content descriptions.

Units of Competency

This course is mapped to allow students to achieve **Certificate I in Automotive Vocational Preparation** or **Certificate II in Automotive Vocational Preparation**. A transition period for the phasing out of **AUR10120 - Certificate I in Automotive Vocational Preparation** will take place during the period 2023 – 2025. The 2025 Year 12 cohort will be the final cohort able to receive this qualification. See implementation table below.

	Year 11	**Year 12**
2023	Certificate I available to commence	Certificate I available to complete
2024	Certificate I available to commence (last cohort to begin Certificate I)	Certificate I available to complete
2025	Certificate II only to commence	Certificate I available to complete for 2025 cohort only
2026	Certificate II only to commence	Certificate II only available to complete

Competence must be demonstrated over time and in the full range of Automotive Vocational Preparation contexts. Teachers must use this unit document in conjunction with the Units of Competence from the **Certificate I in Automotive Vocational Preparation** or **Certificate II in Automotive Vocational Preparation**, 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.

The **Automotive Technology A/M/V** course offers the provision for the attainment of the following vocation qualifications:

AUR10120 - Certificate I in Automotive Vocational Preparation (2023 – 2025)

AUR20720 - Certificate II in Automotive Vocational Preparation

Statement of Attainment in AUR20720 - Certificate II in Automotive Vocational Preparation

AUR10120 - Certificate I in Automotive Vocational Preparation

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

Code	Competency Title
AURLTA101	**Identify automotive mechanical systems and components**

Any **elective competencies** selected to meet packaging rules from the list below may also be delivered:

Code	Competency Title		Code	Competency Title
AURLTJ113	Remove, inspect, and refit light vehicle wheel and tyre assemblies	**OR**	AURTTA001	Remove and tag steering, suspension, and braking system components

AUR20720 - Certificate II in Automotive Vocational Preparation

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

Code	Competency Title
AURAFA103	**Communicate effectively in an automotive workplace**
AURLTA101	**Identify automotive mechanical systems and components**

The following **elective competencies** from the chosen specialist elective group **must be delivered and assessed** over the semester:

Code	Competency Title		Code	Competency Title
AURLTJ113	Remove, inspect, and refit light vehicle wheel and tyre assemblies	**OR**	AURTTA001	Remove and tag steering, suspension, and braking system components

All competencies must be delivered in the defined unit but may also be included as an additional competency in any other unit.

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

Assessment

Refer to pages 11-12.

Automotive Drive Systems — Value: 1.0

Automotive Drive Systems a — **Value 0.5**

Automotive Drive Systems b — **Value 0.5**

Unit Description

In this unit, students will investigate various existing and emerging drive systems. They develop and understanding of multicylinder engines, their energy sources and the systems used in the transfer of power to the drivetrain. They examine the nature, purpose, and differences of automotive drive systems in various vehicles. Students evaluate and apply skills for repairs using appropriate tools and techniques in line with WHS practices.

Specific Unit Goals

This unit should enable students to:

A Course	M Course
• analyse various vehicle drivetrain, functions, components, and systems • analyse drive systems fuels and energy sources, their benefits, and environmental and sustainability considerations • apply skills in the use of tools and equipment used in the maintenance and repair of drivetrain components • apply knowledge and understanding of drivetrain components, and systems to solve problems	• describe vehicle drivetrain, functions, components, and systems • describe independently drivetrain systems fuels and energy sources and their benefits • apply skills in the use of tools and equipment used in the maintenance and repair of drivetrain components • apply knowledge and understanding of drivetrain components to complete procedures

Content Descriptions

All knowledge, understanding and skills below must be delivered:

A Course	M Course
Knowledge and Understanding	
• analyse industry practices, processes and procedures used in the service and repair of drivetrain systems, for example, steering systems, transmissions, differentials, constant velocity and universal joints, gear theories and ratios, clutches, and fluid couplings • analyse advancements in various vehicle drivetrain systems, reflecting on implications for servicing, repair, and replacement, including sustainability concerns, for example, clutch, transmission, drive shaft, hybrid, and electric vehicle components	• describe industry practices, processes and procedures used in the service and repair of drivetrain systems, for example, steering systems, constant velocity, and universal joints • describe vehicle drivetrain systems, for example, clutch and drive shafts

A Course	M Course
• evaluate WHS practices and procedures, and analyse their application in workplace or work contexts, for example, tool selection, lifting procedures, safe handling of oils, lubricants, electrical safety, high voltage contexts, and automotive workshop personal protective equipment	• describe WHS practices and procedures used in drivetrain maintenance and repair, for example, tool selection, automotive workshop PPE
• analyse technical information, specifications, tools and equipment for the repair and servicing of various drivetrain systems, for example, online resources, workshop manual, service booklets, operator manual, hand, power, and pneumatic tool procedures, diagnostic tools, vehicle lifts, jacks, hoists and stands • analyse a variety of traditional and emerging drivetrain systems, components, and functions, including environmental and sustainable considerations	• describe technical information, tools, and equipment for the repair and servicing of drivetrain systems, for example, online resources, workshop manual, service booklets, operator manual, hand, power, and pneumatic tool procedures, diagnostic tools
Skills	
• apply industry practices, processes, and procedures, including project management skills, with high proficiency for maintenance and repair of engine systems with adherence to WHS practices	• apply knowledge of drivetrain components or systems to identify and follow appropriate procedures with adherence to WHS practices
• apply principles of ethics and sustainability to assess automotive technical and enterprise practices, for example, obligations to colleagues and clients, disposal of waste	• describe ethical and sustainable business practices in automotive contexts
• synthesise knowledge, understanding and critical and creative thinking and problem-solving skills to pose justified solutions	• apply technical information to complete tasks
• create informative texts or models for drive systems, for example, how to videos, manuals, auto-services advertising	• create information texts or models about drive systems
• apply academic integrity in communicating research, conclusions, plans or solutions	• use reliable information to develop ideas and plans
• apply communication skills for a variety of audiences and purposes, including industry specific applications	• communicate ideas for industry purposes, for example workplace simulations and teamwork
• apply industry specific literacy and numeracy skills, using industry metalanguage in a wide range of tasks and settings	• demonstrate industry specific literacy numeracy, and appropriate terminology to a range of tasks
• apply independent transferable work and collaboration skills to a variety of tasks to achieve work outcomes	• demonstrate behaviours and attitudes to complete collaborative tasks
• reflect on learning, proposing, and implementing strategies for the future	• reflect on learning habits for improvement

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/M 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/M 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/M content descriptions.

Units of Competency

This course is mapped to allow students to achieve **Certificate I in Automotive Vocational Preparation** or **Certificate II in Automotive Vocational Preparation**. A transition period for the phasing out of **AUR10120 - Certificate I in Automotive Vocational Preparation** will take place during the period 2023 – 2025. The 2025 Year 12 cohort will be the final cohort able to receive this qualification. See implementation table below.

	Year 11	**Year 12**
2023	Certificate I available to commence	Certificate I available to complete
2024	Certificate I available to commence (last cohort to begin Certificate I)	Certificate I available to complete
2025	Certificate II only to commence	Certificate I available to complete for 2025 cohort only
2026	Certificate II only to commence	Certificate II only available to complete

Competence must be demonstrated over time and in the full range of Automotive Vocational Preparation contexts. Teachers must use this unit document in conjunction with the Units of Competence from the **Certificate I in Automotive Vocational Preparation** or **Certificate II in Automotive Vocational Preparation**, 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.

The **Automotive Technology A/M/V** course offers the provision for the attainment of the following vocation qualifications:

AUR10120 - Certificate I in Automotive Vocational Preparation (2023 – 2025)

AUR20720 - Certificate II in Automotive Vocational Preparation

Statement of Attainment in AUR20720 - Certificate II in Automotive Vocational Preparation

AUR10120 - Certificate I in Automotive Vocational Preparation

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

Code	Competency Title
AURTTK102	**Use and maintain tools and equipment in an automotive workplace**

Any **elective competencies** selected to meet packaging rules from the list below may also be delivered:

Code	Competency Title
	Nil

AUR20720 - Certificate II in Automotive Vocational Preparation

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

Code	Competency Title
AURAEA002	**Follow environmental and sustainability best practice in an automotive workplace**
AURTTK102	**Use and maintain tools and equipment in an automotive workplace**

The following **elective competencies** from the chosen specialist elective group **must be delivered and assessed** over the semester:

Code	Competency Title
AURTTA002	Assist with automotive workplace activities

All competencies must be delivered in the defined unit but may also be included as an additional competency in any other unit.

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

Assessment

Refer to pages 11-12.

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 or fourth 1.0 unit in this course of study.

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.

NOTE: There are no VET competencies attached to this unit. VET competencies may be assessed where relevant to the focus of the unit. The competencies selected must align with the requirements of the AUR Training Package and to the competencies already completed during the course if students are to achieve the relevant qualifications.

Specific Unit Goals

This unit should enable students to:

A Course	M Course
• analyse structures, functions, and systems of chosen automotive context • apply skills in the use of tools and equipment used in the maintenance and repair of automotive components or systems in chosen context • apply knowledge and understand of chosen automotive context to plan projects and solve problems	• describe structures, functions, and systems of chosen automotive context • apply skills in the use of tools and equipment used in the maintenance and repair of automotive components or systems in chosen context • apply knowledge and understand of chosen automotive context to complete projects

Content Descriptions

All knowledge, understanding and skills below must be delivered:

A Course	M Course
Knowledge and Understanding	
• analyse industry practices, processes and procedures used in the of chosen automotive context, for example, own vehicle system overhaul	• describe industry practices, processes and procedures used in the of chosen automotive context

A Course	M Course
• analyse advancements in automotive technology in chosen context, reflecting on implications for the chosen automotive context, including ethical or sustainability concerns, for example, solar car challenge	• describe components or systems in chosen context
• evaluate WHS practices and procedures, and analyse their application in chosen workplace or work contexts	• describe WHS practices and procedures used in chosen context
• analyse technical information, specifications, tools, and equipment for the chosen automotive context	• describe technical information, tools, and equipment for the repair and servicing of components and systems in the chosen context
• analyse the structure and function of systems in the chosen automotive context to understand problems and propose solutions	
Skills	
• apply industry practices, processes, and procedures with high proficiency in the chosen automotive context with adherence to WHS practices	• apply knowledge of chosen context's components or systems to identify and follow appropriate procedures with adherence to WHS practices
• apply principles of ethics and sustainability to assess automotive technical and enterprise practices, for example, obligations to colleagues and clients, disposal of waste	• describe ethical and sustainable business practices in automotive contexts
• synthesise knowledge and understanding, and critical and creative thinking and problem-solving skills, in posing justified solutions in the chosen automotive context	• apply technical information to complete tasks
• apply academic integrity in communicating research, conclusions, plans or solutions	• use reliable information to develop ideas and plans
• apply industry specific literacy and numeracy skills, using industry metalanguage in a wide range of tasks and settings	• demonstrates industry specific literacy numeracy and appropriate terminology to a range of tasks
• apply communication skills for a variety of audiences and purposes, including industry specific applications	• communicate ideas for industry purposes, for example, workplace simulations and teamwork
• apply independent transferable work skills to a variety of tasks to achieve work outcomes	• demonstrates behaviours and attitudes to complete collaborative tasks
• reflect on learning, proposing, and implementing strategies for the future	• reflects on learning habits for improvement

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/M 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/M 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/M content descriptions.

Assessment

Refer to pages 11-12.

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 or major course.

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

Units in this course can be delivered in any order.

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 or fourth 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.

System Moderation

System moderation begins in schools whereby teachers cooperate to develop assessment, and grade and score student assessment according to the relevant curriculum.

Moderation Day is an essential component of the ACT senior secondary system which empowers school autonomy in curriculum and assessment. Moderation Day is a collaborative and professional event whereby schools undertake system quality assurance activities on behalf of their current and future students. Moderation Day fosters and enriches the development of quality assessment and validates student achievement. Continued best practice in teaching and learning is ensured through the formation of valid, constructive, and detailed feedback.

System Moderation:

- provides comparability of school-based assessment
- forms the basis for valid and reliable assessment in senior secondary schools
- involves the ACT Board of Senior Secondary Studies (BSSS) and schools in cooperation and partnership
- maintains the integrity of the ACT Senior Secondary Certificate.

The Moderation Model

Moderation within the ACT senior secondary system encompasses structured, consensus-based peer review of Unit Grades and quality of assessment for all BSSS courses twice per year. In addition to System Moderation, there is statistical moderation of course scores.

Moderation by Structured, Consensus-based Peer Moderation

Consensus-based peer moderation involves the review of student assessment against system wide criteria and standards and the validation of Unit Grades. This is done by matching student performance with the Framework Achievement Standards. In addition, feedback will be provided on the quality of the task.

Preparation for Structured, Consensus-based Peer Review

Schools retain originals or copies of student assessment evidence completed in the delivery of the unit and all unit documentation. Student assessment evidence must be sufficient to allow reviewing teachers to make an accurate judgment of grade standard. Schools will use ACS to present this information for System Moderation. Criteria for each Moderation Day will be communicated to schools in the proceeding calendar year.

Feedback from System Moderation

Feedback is provided to schools to affirm good practice and inform continuous improvement. This feedback is based on the BSSS Quality Assessment Guidelines and relevant course documents. It is expected that schools engage with feedback and address any longitudinal trends as outlined in the *BSSS Policy and Procedures Manual*.

Appendix B – Course Developers

Name	College
Joseph Willmott	UC Senior Secondary College Lake Ginninderra
Robert Harriden	Hawker College
David Kurthi	Daramalan College
Minor Variation (2024 for 2025)	
David Moss	Gungahlin College
Karen Hundy	St Mary MacKillop College
Shannon Dunn	Radford 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
Critically analyse	Analysis that engages with criticism and existing debate on the issue
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

This course is mapped to allow students to achieve **Certificate I in Automotive Vocational Preparation** or **Certificate II in Automotive Vocational Preparation**. A transition period for the phasing out of **AUR10120 - Certificate I in Automotive Vocational Preparation** will take place during the period 2023 – 2025. The 2025 Year 12 cohort will be the final cohort able to receive this qualification. See implementation table below.

	Year 11	**Year 12**
2023	Certificate I available to commence	Certificate I available to complete
2024	Certificate I available to commence (last cohort to begin Certificate I)	Certificate I available to complete
2025	Certificate II only to commence	Certificate I available to complete for 2025 cohort only
2026	Certificate II only to commence	Certificate II only available to complete

A work placement(s) is strongly recommended by industry and Registered Training Organisations to ensure students gain further exposure and experience within the automotive servicing and repair industry. Competency assessment for units within the course may occur in a work placement through the use of the Industry Workplace Competency Training R Unit.

For the **AUR10120 Certificate I in Automotive Vocational Preparation** the following packaging rules apply:

Total number of units = 8

5 core units, plus

3 elective units, of which:

- all **3 units** may be from the elective units listed below
- up to **2 units** may be from a Certificate I qualification or above in this Training Package or another endorsed Training Package or accredited course.

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 Automotive Vocational Preparation

Code	**Competency Title**	**Core/Elective**
AURAEA001	**Identify environmental and sustainability requirements in an automotive service or repair workplace**	**Core**
AURASA001	**Apply automotive workplace safety fundamentals**	**Core**
AURETR103	**Identify automotive electrical systems and components**	**Core**
AURLTA101	**Identify automotive mechanical systems and components**	**Core**
AURTTK102	**Use and maintain tools and equipment in an automotive workplace**	**Core**
Electives		
AURETK001	Identify, select, and use low voltage electrical test equipment	Elective
AURETR006	Solder electrical wiring and circuits	Elective
AURLTJ113	Remove, inspect, and refit light vehicle wheel and tyre assemblies	Elective

AURTTA001	Remove and tag steering, suspension, and braking system components	Elective
AURTTE003	Remove and tag engine system components	Elective

For the **AUR20720 - Certificate II in Automotive Vocational Preparation** the following packaging rules apply:

Total number of units = 12

7 core units, plus

5 elective units, of which:

- all **5 units** may be from the elective units listed below
- up to **2 units** may be from a Certificate I or Certificate II qualification in this Training Package or another endorsed Training Package or accredited course.

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 II in Automotive Vocational Preparation

Code	Competency Title	Core/Elective
AURAEA002	**Follow environmental and sustainability best practice in an automotive workplace**	**Core**
AURAFA103	**Communicate effectively in an automotive workplace**	**Core**
AURAFA004	**Resolve routine problems in an automotive workplace**	**Core**
AURASA002	**Follow safe working practices in an automotive workplace**	**Core**
AURETR103	**Identify automotive electrical systems and components**	**Core**
AURLTA101	**Identify automotive mechanical systems and components**	**Core**
AURTTK102	**Use and maintain tools and equipment in an automotive workplace**	**Core**
Electives		
AURETK001	Identify, select, and use low voltage electrical test equipment	Elective
AURETR006	Solder electrical wiring and circuits	Elective
AURLTJ113	Remove, inspect, and refit light vehicle wheel and tyre assemblies	Elective
AURTTA001	Remove and tag steering, suspension, and braking system components	Elective
AURTTA002	Assist with automotive workplace activities	Elective
AURTTE003	Remove and tag engine system components	Elective

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.

VET Competencies Mapped to Course Units

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

Competencies designated at the Certificate III level can only be delivered by schools that have scope to do so. Colleges must apply to have additional competencies at a higher level listed on their scope of registration.

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.

All core competencies must be delivered in the relevant unit. The elective competencies delivered are dependent on the elective units chosen.

VET Implementation Summary

AUR10120 Certificate I in Automotive Vocational Preparation

BSSS Unit Title	Competencies	
Automotive Principles 1.0	**Core**	
	AURAEA001	**Identify environmental and sustainability requirements in an automotive service or repair workplace**
	AURASA001	**Apply automotive workplace safety fundamentals**
	Electives	
	AURTTE003	Remove and tag engine system components
Electrical Automotive Systems 1.0	**Core**	
	AURETR103	**Identify automotive electrical systems and components**
	Electives	
	AURETK001	Identify, select, and use low voltage electrical test equipment
		OR
	AURETR006	Solder electrical wiring and circuits
Vehicle Components and Systems 1.0	**Core**	
	AURLTA101	**Identify automotive mechanical systems and components**
	Electives	
	AURLTJ113	Remove, inspect, and refit light vehicle wheel and tyre assemblies
		OR
	AURTTA001	Remove and tag steering, suspension, and braking system components
Automotive Drive Systems 1.0	**Core**	
	AURTTK102	**Use and maintain tools and equipment in an automotive workplace**
	Electives	
		Nil

AUR20720 - Certificate II in Automotive Vocational Preparation

BSSS Unit Title	Competencies	
Automotive Principles 1.0	**Core**	
	AURASA002	**Follow safe working practices in an automotive workplace**
	Electives	
	AURTTE003	Remove and tag engine system components
Electrical Automotive Systems 1.0	**Core**	
	AURAFA004	**Resolve routine problems in an automotive workplace**
	AURETR103	**Identify automotive electrical systems and components**
	Electives	
	AURETK001	Identify, select, and use low voltage electrical test equipment
	AURETR006	Solder electrical wiring and circuits
Vehicle Components and Systems 1.0	**Core**	
	AURAFA103	**Communicate effectively in an automotive workplace**
	AURLTA101	**Identify automotive mechanical systems and components**
	Electives	
	AURLTJ113	Remove, inspect, and refit light vehicle wheel and tyre assemblies
		OR
	AURTTA001	Remove and tag steering, suspension, and braking system components
Automotive Drive Systems 1.0	**Core**	
	AURAEA002	**Follow environmental and sustainability best practice in an automotive workplace**
	AURTTK102	**Use and maintain tools and equipment in an automotive workplace**
	Electives	
	AURTTA002	Assist with automotive workplace activities

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).

Assessment of Certificate III Units of Competence

Colleges delivering any Units of Competence from Certificate III (apart from those competencies allowed in training package rules) will need to have them listed on their scope **or** negotiate a Third-Party Agreement with a scoped training partner. This document must be kept on record by the college as the RTO.

Appendix G – Course Adoption

Conditions 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 from the principal or their nominated delegate to bssscertification@ed.act.edu.au. A nominated delegate must CC the principal.

The email will include the **Conditions of Adoption** statement above, and the table below adding the **College** name, and circling the **Classification/s** required.

College:	
Course Title:	Automotive Technology
Classification/s:	A M or A/V M/V
Accredited From:	2025
Framework:	Industry and Services