Government of **Western Australia**
School Curriculum and Standards Authority

SAMPLE ASSESSMENT OUTLINE

AUTOMOTIVE ENGINEERING AND TECHNOLOGY
GENERAL YEAR 12

Sample assessment outline

Automotive Engineering and Technology – General Year 12

Unit 3 and Unit 4

Assessment type and weighting	Assessment task and weighting	When/ Duration	Assessment task
Response 15%	5%	Semester 1 Weeks 1–2	**Task 1: Automotive mechanics – safety** This task is to be completed prior to attempting any practical work Activities: • watch workshop safety video • understand general safety aspects of workshop practice • complete automotive safety certificate • choose an automotive workshop machine or skill and describe, through demonstration, the safe operational requirements
	3%	Semester 1 Weeks 3–6	**Task 2: Report on different fuels and lubricants** • scientific principles – chemical and mechanical energy, energy conversion • fuels and lubricants, their association with different engines and automotive technologies • performance of different types of fuels in various types of engines
	2%	Semester 1 Weeks 11–15	**Task 5 Part A: Report on the rules and regulations and social, economic and environmental implications and consequences** Worksheet/s or assignment on rules and regulations/social, economic and environmental implications and consequences
	2%	Semester 2 Weeks 1–3	**Task 5 Part B: Report on the automotive industry, regulations and development of vehicle performance** Worksheet/s or assignment on the automotive industry, regulations and development of vehicle performance
	3%	Semester 2 Weeks 6–8	**Task 7: Investigate the principles of torque, rotational power and pressure/stress** Investigations to understand torque, rotational power and pressure/stress in the power train, steering systems and braking systems
Investigation and diagnostics 20%	5%	Semester 1 Weeks 9–10	**Task 4 Part A: Design brief** – design a tool or device to be used during automotive workshop activities
	5%	Semester 2 Weeks 4–8	**Task 6: Vehicle maintenance – current processes and latest techniques** • use flow charts and problem-solving skills to diagnose faults in conjunction with the use of specialised tools and equipment • identify service, repair and maintenance requirements of more advanced engines, and the skills, knowledge, materials, parts and equipment needed to optimise performance • identify occupational safety and health requirements for different processes • use collaborative practices involved in workshop activities Investigations to understand and demonstrate processes for the following, rotating through a series of activities:

Assessment type and weighting	Assessment task and weighting	When/ Duration	Assessment task
			• methods of diagnosis for fault finding • compression test • engine timing • oils and oil filters • air and fuel filters • radiator and coolant • brake pads and brake fluid • tyres, tread, pressures and rotation • different suspension systems • electrical wiring, lights and bulbs
	5%	Semester 2 Weeks 9–11	**Task 8 Part A: Vehicle trouble-shooting techniques** Complete the following trouble-shooting tasks: • methods of diagnosis for fault finding • jumpstart • electrical lights test and changing a bulb
	5%		**Task 8 Part B: Vehicle trouble-shooting techniques** • compression test • engine timing tune up
Production and assembly 50%	15%	Semester 1 Weeks 6–8	**Task 3: Complete under-vehicle activities** Perform all occupational safety and health (OSH) requirements while in the workshop • complete an under-vehicle inspection of front and rear chassis and suspension set ups • complete the process to lubricate, where necessary, the components of the steering and drive systems • complete a procedure to remove and replace a rear shock absorber and strut
	15%	Semester 1 Weeks 11–15	**Task 4 Part B: Managing production – Produce the proposed tool or device to be used during automotive workshop activities** • use workshop equipment safely to produce the tool or device
	5%	Semester 2 Weeks 1–3	**Task 4 Part C: Test and evaluate finished workshop tool or device**
	15%	Semester 2 Weeks 12–15	**Task 9: Design a model and apply different methods of fitting and joining automotive materials together**
Externally set task 15%	15%	Semester 1 Week 13	A written task or item or set of items of 50 minutes duration developed by the School Curriculum and Standards Authority and administered by the school
Total 100%	**100%**		