PRODUCT LIST – 2011

Systems Engineering 2011

Systems Engineering Units 1 & 2
Product ID: SE11 1/2

Consists of: Mechanical Engineering Fundamentals
Electrotechnology Engineering Fundamentals

Systems Engineering Units 3 & 4
Product ID: SE11 3/4

Consists of: Systems Engineering and Energy
Integrated and Controlled Systems Engineering

Systems Engineering Units 1 & 2 – Teacher Reource
Product ID: SETR1/2

Systems Engineering Units 3 & 4 – Teacher Resource
Product ID: SETR3/4

Yr 7/8/9/10 Design & Creativity, Electrical/Electronic and Automotive Technology

Year 7/8 – Design Creativity and Technology – Book 1
Product ID: EPOD1

Electropod Book 1 is a student-centered workbook. The workbook makes a fundamental shift – from a focus on teaching to a focus on learning. The process is aimed at using problem solving to engage students and enhance their learning and motivation.

Introduction to Microcontrollers
Product ID: Micro

This course provides the student with the opportunity to gain knowledge and competency to construct Picaxe microcontroller circuits and also obtain an understanding of basic electronic components and systems.

School Electronic Supplies Introduction to Microcontrollers
Product ID: Micro2

This course provides the student with the opportunity to gain knowledge and competency to construct Picaxe microcontroller circuits and also obtain an understanding of basic electronic components and systems.

Steam and Flight
Product ID: SF

Systems and Technology – Steam and Flight

Introduction to ezCircuit Designer and CoreChart
Product ID: ECD

This course provides the student with the opportunity to gain knowledge and competency to construct PIC microcontroller circuits and also obtain an understanding of basic electronic components and systems.

Year 9/10 Automotive Technology Studies
Product ID: AM 9/10

Systems and Technology automotive studies – Year 9 and 10 Automotive Technology.

Year 9/10 Make a Robot Using Picaxe — Product ID: Robot_P

This course provides the student with the opportunity to gain knowledge and competency to make and program a robot and obtain an understanding of machines and basic electronic components.

Year 9/10 Make a Robot Using ezCircuit Designer & CoreChart — Product ID: Robot_CC

This course provides the student with the opportunity to gain knowledge and competency to make and program a robot and obtain an understanding of machines and basic electronic components.

Year 9/10 Assemble & Dismantle Four Stroke Single Cylinder Briggs & Stratton Engine — Product ID: BS

This unit provides the student with the opportunity to learn all about small engines. Students will assemble a motor, make it run, then dismantle it. The knowledge gained can be applied in real life situations when they mow the lawn and drive a car. The principles are transferrable.

Year 8/9 Electronic Fundamentals — Product ID: SEE 8/9

This course provides the student with the opportunity to gain knowledge and competency, to use a breadboard to construct a light sensitive motor circuit, manufacture their own PCB, then mount and solder the components onto their PCB.

Students will then design and manufacture a practical application for the circuit that they assembled.

22015VIC – Certificate II in Automotive Studies (Pre-vocational)

AURC270103A	Apply safe work practices
AURT225667A	Use and maintain measuring equipment
AURT270278A	Use and maintain workplace tools and equipment
VBN047	Job seeking
VBN644	Carry out industry research
VBN645	Setup and use oxy-acetylene equipment
VBN646	Setup and use welding equipment
VBN647	Clean a vehicle
VBN648	Remove and replace engine assembly (conventional)
VBN650	Dismantle & assemble engine, 2 stroke single cylinder (petrol)
VBN651	Dismantle & assemble engine, 4 stroke single cylinder (petrol)
VBN652	Dismantle & assemble 4 stroke multi cylinder engine (petrol)
VBN653	Remove and replace engine cylinder head
VBN655	Dismantle and assemble carburettor
VBN657	Dismantle and assemble fuel pump
VBN659	Dismantle & assemble transmission manual (conventional)
VBN661	Dismantle & assemble transmission manual (transaxle)
VBN662	Remove and replace clutch assembly
VBN665	Remove and replace brake assembly

VBN666	Remove and replace wheel and tyre assemblies
VBN668	Operate electrical test equipment
VBN670	Remove and replace alternator
VBN671	Dismantle and assemble alternator
VBN672/673	Remove & replace; Dismantle & assemble starter motor
VBN674/675	Remove & refit; Recharge batteries
VBN676	Construct basic circuits
VBN677	Construct microcomputer circuits
VBN692	Remove and replace steering assembly
VPAU	Participate in basic vehicle servicing operations

21560VIC – Certificate II in Automotive Technology Studies

AURC270103A(20 hrs) Apply safe working practices

This unit incorporates the Worksafe Australia Guidelines and encompasses competencies necessary to apply basic safety and emergency procedures to maintain a safe workplace for staff, customers and others.

AURT270278A(20 hrs) Use and maintain workplace tooling and equipment

This unit identifies the competence required to select, safely use and maintain workplace tooling and equipment.

AURT225667A(15 hrs) Use and maintain measuring equipment

This unit identifies the competence required to measure equipment, components or sections using non-specialist equipment and maintain the measuring equipment.

NCS003 (20 hrs) Job seeking skills

To enable the students to develop the necessary communication skills to research and apply for suitable employment and evaluate individual performance in the job application process.

VBN644 (40 hrs) Carry out industry research

This unit forms part of the competency bank designed to prepare students for a career in the automotive industry.
It covers the competency to carry out research activities into the culture and structure of an automotive industry workshop.
It also requires the student to prepare for and plan the task, and produce a technical report.

VBN645 (30 hrs) Setup and use Oxy Acetylene equipment

This unit identifies the competence required to use oxy-acetylene heating, cutting and welding on various materials.

VBN646 (40 hrs) Setup and use welding equipment

This unit identifies the competence required to use welding equipment on various materials.

VBN648 (20 hrs) **Remove and replace engine assembly (conventional)**
This unit covers the competency to remove and replace an engine from a conventional rear wheel drive motor vehicle.

VBN650 (40 hrs) **Dismantle and assemble two stroke single cylinder (petrol)**
This unit covers the competency to dismantle and assemble a two stroke single cylinder petrol engine.

VBN651 (40 hrs) **Dismantle and assemble four stroke single cylinder engine (petrol)**
This unit covers the competency to dismantle and assemble a four stroke single cylinder petrol engine.

VBN652 (40 hrs) **Dismantle & assemble engine, four stroke, multi cylinder (petrol)**
This unit covers the competency to dismantle a four stroke multi cylinder petrol engine.

VBN653 (20 hrs) **Remove and replace engine cylinder head**
This unit covers the competency to remove and replace a cylinder head from a multi cylinder engine.

VBN655 (20 hrs) **Dismantle and assemble carburettor**
This unit covers the competency to remove and replace a carburettor from a motor vehicle engine and dismantle & assemble it.

VBN656/657 (30 hrs) **Remove & replace and Dismantle & assemble fuel pump**
This unit covers the competency to remove, replace, dismantle and reassemble a motor vehicle petrol fuel pump.

VBN657 (20 hrs) **Dismantle and assemble fuel pump**
This unit covers the competency to dismantle and reassemble a motor vehicle petrol fuel pump.

VBN659 (40 hrs) **Dismantle & assemble transmission manual (conventional)**
This unit covers the competency to dismantle a four or five speed conventional manual transmission.

VBN661 (40 hrs) **Dismantle & assemble transmission manual (transaxle)**
This unit covers the competency to dismantle a four or five speed manual transaxle transmission.

VBN662 (20 hrs) **Remove and replace clutch assembly**
This unit covers the competency to remove and replace a clutch assembly.

VBN665 (20 hrs) **Remove and replace brake assemblies**
This unit covers the competency to remove and replace vehicle front and rear brake assemblies.

VBN666 (10 hrs) **Remove and replace wheel and tyre assemblies**
This unit covers the competency to remove and replace vehicle wheels and tyres as a complete assembly.

VBN668 (40 hrs) **Operate electrical test equipment**
This unit covers the competency to operate automotive electrical test equipment to enable the testing of circuits and/or components.

VBN669 (40 hrs) **Construct lighting circuits**
This unit covers the competency to construct a range of lighting circuits appropriate to the motor vehicle.

VBN670 (15 hrs) **Remove and replace alternator**
This unit covers the competency to remove and replace an automotive vehicle alternator.

VBN671 (40 hrs) **Dismantle and assemble alternator**
This unit covers the competency to dismantle and assemble an alternator.

VBN672 (15 hrs) **Remove and replace starter motor**
This unit covers the competency to remove and replace an automotive vehicle starter motor.

VBN672/673 (55 hrs) **R&R, Dismantle and assemble starter motor (combined)**
VBN672 – covers the competency to remove and replace an automotive vehicle starter motor.
VBN673 – covers the competency to dismantle and assemble a starter motor.

VBN674/675 (15 hrs) **Remove, replace and recharge batteries**
This unit covers the competency to remove and refit batteries from a vehicle engine (VBN674) and recharge batteries from a vehicle engine (VBN675). It also requires the student to prepare for and plan the task, investigate battery types and connections, perform tests and inspections, maintain work area and prepare a technical report.

VBN675 (15 hrs) **Recharge batteries**
This unit covers the competency to recharge batteries from vehicle engines. It also requires the student to prepare for and plan the task, investigate battery types and connections, perform tests and inspections, maintain work area and prepare a technical report.

VBN676 (40 hrs) **Construct basic electronic circuits**
This unit covers the competency to construct basic electronic circuits and to enable an understanding of basic electronic components and systems, as used in the motor vehicle.

VBN677 **(40 hrs)** **Construct microcomputer circuits**

This unit covers the competency to construct basic microcomputer circuits and to enable an understanding of a control system i.e. engine management system.

VBN692 **(20 hrs)** **Remove and replace steering assembly**

This unit covers the competency to remove and replace vehicle steering assemblies.

VBN782 **(60 hrs)** **Perform basic welding and thermal cutting processes to fabricate engineering structures**

This unit of competency sets out the knowledge and skills required to perform basic welding using MMAW & GMAW and basic thermal cutting using fuel gas equipment