Workplace Learning Record

VCE VET Electrical Industry

22499VIC Certificate II in Electrotechnology Studies (Pre-vocational)

**Student name:**

Authorised and published by the Victorian Curriculum and Assessment Authority
Level 7, 200 Victoria Pde
East Melbourne VIC 3002

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Structured Workplace Learning Recognition

[VCE Structured Workplace Learning Recognition for VET](https://www.vcaa.vic.edu.au/curriculum/vce/vce-study-designs/SWLRforVET/Pages/Index.aspx) provides students with the opportunity to gain credit towards their VCE (including the VCE VM) or VPC by undertaking a Structured Workplace Learning (SWL) placement that is aligned to their VE1 VCE VET program or VE2 School-based Apprenticeship or Traineeship (SBAT).

To receive credit, students are required to demonstrate satisfactory achievement of the outcomes for the relevant unit of the *VCE Structured Workplace Learning Recognition for VET* study design.

Students must maintain a Workplace Learning Record (WLR) for each placement. In the WLR students must reflect on a minimum of six units of competency (UoCs) from their program, including a workplace health and safety (WHS) UoC.

About this workplace learning record

Students undertaking this study must maintain a Workplace Learning Record (WLR) related to the SWL placement for recording, authentication and assessment purposes.

Student reflections on their SWL placement are to be recorded in the three sections of this WLR to document the skills and knowledge learned, employability skills developed, and industry experience gained relating to the VET qualification being undertaken.

Students must undertake a work placement in a different workplace setting or context for each VCE unit and maintain a separate WLR per placement.

The WLR is divided into three sections.

**Section 1**: Learner profile

**Section 2**: Learning about VET units of competency (UoCs) in the workplace

**Section 3**: Post-placement reflections

Please complete the details of your workplace.

|  |  |
| --- | --- |
| **Employer/Company/Business** |  |
| **Supervisor name** |  |
| **Contact phone number** |  |

|  |  |
| --- | --- |
| **Employer/Company/Business** |  |
| **Supervisor name** |  |
| **Contact phone number** |  |

|  |  |
| --- | --- |
| **Employer/Company/Business** |  |
| **Supervisor name** |  |
| **Contact phone number** |  |

Section 1: Learner profile

Complete the learner profile and discuss this with your host employer on or before your first day of SWL placement.

|  |  |
| --- | --- |
| **Student Name** |  |
| **School**  |  |
| **Phone number** |  |
| **Email** |  |
| **Explain why you decided to undertake this VET certificate?** |
|  |
| **List the other studies that you are undertaking.** |
|  |
| **Explain why you have chosen this overall program.**  |
|  |
| **Outline what interests you about the industry.** |
|  |
| **What is your planned career path or future career aspiration?**  |
|  |
| **Describe any workplace skills you have developed through previous work experience, SWL or part time employment.** |
|  |
| **How have you developed these skills?**  |
|  |

Section 2: Learning about VET units of competency in the workplace

This section of the WLR will contain three key questions per unit of competency (UoC) designed to draw out related experiences you may be exposed to in a workplace.

This does not cover all the elements or performance criteria within the units and is not designed as a UoC assessment tool.

You should comment on the UoCs you have experienced in the workplace and reflect on actual observations or activities that you have been exposed to. Your observations will:

* reinforce the training you have undertaken
* identify differences in practice or equipment
* identify areas requiring further training or practical experience.

You are encouraged to take photos and/or video where appropriate to showcase learning in the workplace. Evidence you collect can include:

* observations
* descriptions of activities and tasks
* conversations with employers and other staff
* participation in meetings
* workplace documents
* research in the workplace
* photos of equipment/processes/events
* video of workplace activities.

**Note**: please speak to your host employer before taking photos or video. Do not use the names or details of any clients/stakeholders external to the organisation/other. This record does not require identifying actual people or events, as this may breach confidentiality.

Program outline

22499VIC Certificate II in Electrotechnology Studies
(Pre-vocational)

The compulsory UoCs and a selection of electives are listed in the table below. You may list any additional UoC(s) relating to your experiences in the workplace in the table. Indicate the year in which you are undertaking each UoC. You must reflect on a minimum of six UoCs from your program, including a workplace health and safety (WHS) UoC.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| UoC code | UoC title | Nominal hours | Year | Page |
| **Work, Health and Safety** |
| CPCCWHS1001 | Prepare to work safely in the construction industry | 6 |  | 10 |
| UEENEEE101A | Apply Occupational Health and Safety regulations, codes and practices in the workplace | 20 |  | 11 |
| **Compulsory** |
| HLTAID011 | Provide First Aid | 18 |  | 12 |
| UEENEEE102A | Fabricate, assemble and dismantle utilities industry components | 40 |  | 13 |
| UEENEEE103A | Solve problems in ELV single path circuits | 40 |  | 14 |
| UEENEEE105A | Fix and secure electrotechnology equipment | 20 |  | 15 |
| UEENEEJ104A | Establish the basic operating conditions of air conditioning systems | 20 |  | 16 |
| VU21544 | Install a sustainable extra low voltage energy power system | 30 |  | 17 |
| VU22333 | Perform intermediate engineering computations | 40 |  | 18 |
| VU22670 | Provide an overview of the electrotechnology industry | 30 |  | 19 |
| VU22671 | Use test instruments in the electrotechnology industry | 20 |  | 20 |
| VU22672 | Carry out basic electrotechnology project | 40 |  | 21 |
| VU22673 | Carry out basic network cabling for extra low voltage (ELV) equipment and devices | 30 |  | 22 |
| **Elective** |
| UEENEEE141A | Use of routine equipment/plant/technologies in an energy sector environment | 60 |  | 23 |
| UEENEEJ102A | Prepare and connect refrigerant tubing and fittings | 40 |  | 24 |
| UEENEEJ103A | Establish the basic operating conditions of vapour compression systems | 60 |  | 25 |
| UEENEEK112A | Provide basic sustainable energy solutions for energy reduction in residential premises | 40 |  | 26 |
| UEENEEP024A | Attach cords and plugs to electrical equipment for connection to a single phase 230 Volt supply | 20 |  | 27 |
| UEENEEP026A | Conduct in-service safety testing of electrical cord connected equipment and cord assemblies | 20 |  | 28 |
| VU22330 | Select and interpret drawings and prepare three dimensional (3D) sketches and drawings | 20 |  | 29 |
| VU22338 | Configure and program a basic robotic system | 60 |  | 30 |
| VU22340 | Use 3D printing to create products | 40 |  | 31 |
| VU22341 | Apply basic computer networking concepts and practices | 40 |  | 32 |
| VU22669 | Perform energy sector installations of extra low voltage (ELV) single path circuits | 40 |  | 33 |
| VU22674 | Explore applications and operation of the Internet of Things (IoT) | 20 |  | 34 |

Reflect on the UoCs you have experienced in the workplace on the following pages.

VCE VET units of competency

CPCCWHS1001 - Prepare to work safely in the construction industry

This unit of competency specifies the mandatory work health and safety training required prior to undertaking construction work.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| How did you learn about the OHS policies and procedures that apply to the workplace? |  |
| List at least three hazards at the workplace. Explain how you are expected to control the hazard. |  |
| In your experience in the workplace, what are the processes for responding to incidents that affect workers? |  |

UEENEEE101A - Apply Occupational Health and Safety regulations, codes and practices in the workplace

This unit specifies the mandatory requirements of occupational health and safety and how they apply to the various electrotechnology work functions. It encompasses responsibilities for health and safety, risk management processes at all operative levels and adherence to safety practices as part of the normal way of doing work.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| Describe the process in the workplace for checking safety and functionality of tools and equipment. |  |
| In the workplace, what were three typical hazards? What procedure was used to control the risks of these hazards? |  |
| In your observation and experience, what was the workplace procedure for dealing with accidents/fires/ emergencies? |  |

HLTAID011 - Provide First Aid

This unit describes the skills and knowledge required to provide a first aid response to a casualty. The unit applies to all workers who may be required to provide a first aid response in a range of situations, including community and workplace settings.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| What was the procedure for responding to an emergency in the workplace? |  |
| What first aid equipment did they have within the workplace? |  |
| What was the process for reporting workplace incidents? |  |

UEENEEE102A - Fabricate, assemble and dismantle utilities industry components

This unit covers basic fitting and fabrication techniques as they apply in the various utilities industry work functions. It encompasses the safe use of hand, fixed and portable power tools; cutting, shaping joining and fixing using metallic and non-metallic materials; dismantling and assembling equipment; basic mechanical measurement and marking-out and reading drawings/diagrams.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| How did the workplace prepare for dismantling, assembling and fabrication work? |  |
| What were the routine quality checks that were undertaken in your workplace? |  |
| In your observation and experience in the workplace, what utilities industry components were fabricated? |  |

UEENEEE103A - Solve problems in ELV single path circuits

This unit covers providing known solutions to predictable problems in single path circuits operated at extra-low voltage (ELV) as they apply to various energy sector work functions. It encompasses working safely and problem-solving procedures, including the use of basic voltage, current and resistance measuring devices, providing known solutions to predictable circuit problems.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| How did the workplace prepare to work on extra-low voltage single path electrical circuits? |  |
| What problems did you observe in the workplace when working with extra-low voltage single path electrical circuits? |  |
| In your observation and experience in the workplace, how was work completion documented? |  |

UEENEEE105A - Fix and secure electrotechnology equipment

This unit covers fixing, securing and mounting techniques as they apply in the various electrotechnology work functions.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| Describe the tools, equipment and testing devices that you used in the workplace. |  |
| How did the workplace arrange electrical isolation when preparing for work? |  |
| Outline any fixing and support devices that you observed being installed. |  |

UEENEEJ104A - Establish the basic operating conditions of air conditioning systems

This unit covers the determination of basic operating conditions of air conditioning systems. It encompasses working safely, determining air temperature, air flow rates and relative humidity using measurement, and basic calculation methods.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| How did the workplace determine the basic operating conditions of air conditioning systems? |  |
| What tools, equipment and testing devices did you use in the workplace to determine the basic operating conditions of vapour compression systems? |  |
| How did the workplace ensure that the work site and equipment was cleaned and made safe at the conclusion of installation? |  |

VU21544 - Install a sustainable extra low voltage energy power system

This unit of competency sets out the knowledge and skills required to plan to install, install and commission a sustainable energy power system.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| Describe a sustainable energy system that you planned, installed or commissioned in the workplace. |  |
| List at least one piece of equipment, machinery or plant you had to isolate before installing a sustainable energy system in the workplace? What did you have to do to isolate it? |  |
| Outline a problem you observed while planning, installing or commissioning a sustainable energy system in the workplace. |  |

VU22333 - Perform intermediate engineering computations

This unit of competency describes the skills and knowledge required to prepare and apply intermediate level engineering computations, including the use of trigonometry, sine and cosine rules, formulae and geometric principles relevant to the engineering and the calculation of areas and volumes of common engineering shapes.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| Describe two job computations that were used in this workplace. |  |
| Describe a job in the workplace that required you to make a computation.What computation method did you use? |  |
| Outline one of the Standard Operating Procedures (SOPs) used in the workplace. |  |

VU22670 - Provide an overview of the electrotechnology industry

This unit describes the skills and knowledge required to gain an overview of the electrotechnology industry including the various streams of the industry, services and products provided, employment opportunities and the training pathways for entry into the industry. The unit also examines the role and training requirements to become an electrotechnology tradesperson, preparing a personal resume and participating in a face to face job interview.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| Identify the stream or sector of the electrotechnology industry you believe this workplace belongs to and describe its key work function |  |
| Describe the role and responsibilities of one of the technical staff in this workplace. |  |
| Describe at least one thing you did in this workplace that would be worth including in your resume. |  |

VU22671 - Use test instruments in the electrotechnology industry

This unit describes the performance outcomes, skills and knowledge required to identify, safely connect and use analogue and digital test instruments to test a range of extra low voltage (ELV) components and circuits.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| List and describe three test instruments used in the workplace. |  |
| Give an example of some test results that had to be recorded in this workplace, including how the results were recorded. |  |
| What did they do in this workplace when test equipment was suspected of being damaged, faulty or inaccurate? |  |

VU22672 - Carry out basic electrotechnology project

This unit describes the performance outcomes, skills and knowledge required to plan, carry out and finalise a basic electrotechnology project. It is intended to be carried out in a team of three to four persons.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| Provide three project ideas your team worked on. Describe one you were most involved with. |  |
| What safety risks and hazards were identified and how were these controlled? |  |
| What tools, equipment and other resources were required for the project? |  |

VU22673 - Carry out basic network cabling for extra low voltage (ELV) equipment and devices

This unit describes the performance outcomes, skills and knowledge required to run cabling for the connection of extra low voltage (ELV) networking equipment and devices.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| List some of the network cabling, testing equipment and tools you used in the workplace. |  |
| What did you do in this workplace to ensure cabling work was coordinated effectively with others? |  |
| What work health and safety/occupational health and safety (WHS/OHS) procedures did you have to follow when installing cabling in the workplace? |  |

UEENEEE141A - Use of routine equipment/plant/technologies in an energy sector environment

This unit covers routine tools, equipment and personnel protective equipment required to do work in the energy sector environment, is used in accordance with the schedule of work to ensure work is completed in an agreed time, to a quality standard and with a minimum waste.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| List some of the tools, equipment and personal protective equipment you used in the workplace. |  |
| Give an example of a check you did to ensure equipment was being used according to instructions. |  |
| What sustainable energy practices did you have to follow in the workplace? |  |

UEENEEJ102A - Prepare and connect refrigerant tubing and fittings

This unit covers the basic connection of refrigeration and air conditioning piping/ tubing and fittings. It encompasses the safe use of hand, fixed and portable power tools for cutting, flaring, bending, swaging, silver brazing copper tube to copper tube, Bundy tube and brass and steel fittings, measurement and reading drawings and diagrams.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| How did the workplace prepare to fabricate tubing and attach fittings for refrigeration and/or air conditioning systems? |  |
| Describe any occasion where you observed the fabrication of tubing and attachment of fittings for refrigeration and/or air conditioning systems in the workplace. |  |
| What routine quality checks were undertaken by the workplace for completed work? |  |

UEENEEJ103A - Establish the basic operating conditions of vapour compression systems

This unit covers the determination of the operating conditions of vapour compression systems. It encompasses working safely, determining refrigerant pressures and temperatures and relevant air and water temperatures using measurement and basic calculation methods.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| What tools, equipment and testing devices were used by the workplace to determine the basic operating conditions of vapour compression systems? |  |
| Describe any occasion where you observed systems being checked and isolated. Why was it necessary in the workplace? |  |
| How were operating conditions documented, including identification of any parameter that was not within the specified range for the system? |  |

UEENEEK112A - Provide basic sustainable energy solutions for energy reduction in residential premises

This unit covers monitoring energy use and providing basic sustainable energy options to reduce the energy consumption in residential premises.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| How did the workplace prepare to monitor energy usage? |  |
| Describe two basic solutions this workplace used when helping customers reduce their energy use. |  |
| How did the workplace check the quality of their work? |  |

UEENEEP024A - Attach cords and plugs to electrical equipment for connection to a single phase 230 Volt supply

This unit covers attaching flexible cords and plugs to electrical equipment for connection to supplies up to 230V AC. This may be incidental to or a primary and regular function of work related to a principle function in the workplace.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| How did the workplace select flexible cords and plugs for various jobs and what standards and requirements were considered? |  |
| What process did you observe being conducted for attaching flexible cords and plugs in the workplace? |  |
| What was the workplace’s established procedure for identifying faults in attached flexible cords and plugs? |  |

UEENEEP026A - Conduct in-service safety testing of electrical cord connected equipment and cord assemblies

This unit covers safety testing of electrical cord connected equipment and cord assemblies. It encompasses working safely, using portable apparatus tester, identifying faults, applying tagging, arranging for repair of faulty equipment and complete testing documentation.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| How did you prepare to test cord connected apparatus and cord assemblies? |  |
| What equipment did you use in this workplace to test cord connected apparatus and cord assemblies? |  |
| Before testing cord connected apparatus and assemblies, what process did the workplace follow to ensure the items being tested were not connected to the electrical supply? |  |

VU22330 - Select and interpret drawings and prepare three dimensional (3D) sketches and drawings

This unit of competency describes the knowledge and skills required to select and interpret drawings to plan and complete an engineering task.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| How did the workplace ensure the correct sketches or drawings were available for engineering jobs? |  |
| Give examples of two or more drawing symbols, dimensions and tolerances you used in the workplace. |  |
| What were you required to do in the workplace when a sketch or drawing had insufficient detail? |  |

VU22338 - Configure and program a basic robotic system

This unit describes the knowledge and skills required to configure and program a basic robotic system. Typical tasks for basic robotic system operation include pick and place, motion and navigation. Code development will include testing code and producing code to control robotic systems.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| What documentation did the workplace use to plan the programming of a robotics system? |  |
| Describe how robotics systems were programmed in the workplace. |  |
| What hardware and software did you use in the workplace? |  |

VU22340 - Use 3D printing to create products

This unit describes the skills and knowledge required to utilise a three-dimensional (3D) printer to produce basic products.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| How did the workplace determine requirements for 3D printing jobs? |  |
| What 3D printing software and hardware did you use in the workplace? What was your role? |  |
| Describe a 3D product you produced or observed being produced in this workplace. |  |

VU22341 - Apply basic computer networking concepts and practices

This unit describes the knowledge and skills required to apply basic computer networking concepts and practices to a new or existing computer network.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| Describe two or more of the basic network devices you used whilst in the workplace? |  |
| In this workplace, how did they determine a customers’ basic network requirements? |  |
| Describe two or more of the network and connectivity testing methods used in the workplace. |  |

VU22669 - Perform energy sector installations of extra low voltage (ELV) single path circuits

This unit provides the skills and knowledge required to wire extra-low voltage (ELV) single path circuits and terminate associated accessories in a simulated workplace environment.

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| --- | --- |
| Respond to the following | Comments/observations |
| How did the workplace determine requirements for specific extra low voltage (ELV) jobs? |  |
| Describe any occasion where you observed the wiring of ELV circuits and connection of accessories in the workplace. |  |
| What did the workplace use as testing devices to confirm compliance with regulatory and licensing requirements, as well as safe operation of the circuit? |  |

VU22674 - Explore applications and operation of the Internet of Things (IoT)

This unit describes the performance outcomes, skills and knowledge required to recognise the current applications and potential of the Internet of Things (IoT) including its application in the electrotechnology industry.

|  |  |
| --- | --- |
| Respond to the following | Comments/observations |
| Describe two typical IoT devices and briefly explain their function. |  |
| Describe any occasion where you undertook or observed troubleshooting of an IoT system in the workplace. |  |
| Describe one technique they used in this workplace to securely connect to Wi-Fi devices in an IoT system. |  |

Comments/observations on any other UoCs not listed

|  |  |
| --- | --- |
| UoCs | Comments/observations |
|  |  |

Section 3: Student post-placement reflection

Employability skills are a set of eight skills we use every day in the workplace.

1. Communication
2. Teamwork
3. Problem solving
4. Self-management
5. Planning and organising
6. Technology
7. Learning
8. Initiative and enterprise

When you are on work placement, you will be using employability skills in many ways.

This record will assist you when applying for jobs and in interviews. The skills you are developing may be transferred to a range of occupations.

In Section 3, identify the employability skills you have used and how you have demonstrated them in the workplace. Identify how the skills you have acquired and used during your 80 hours of SWL might assist you in the future.

List of employability skills

How did you demonstrate **communication skills**? For example, by listening and understanding, speaking clearly and directly, or reading and writing.

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| --- |
|  |

How did you demonstrate **teamwork**? For example, by working as part of a team or sharing ideas and resources with co-workers.

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How did you demonstrate **problem solving**? For example, by identifying problems or developing solutions to workplace issues.

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|  |

How did you demonstrate **self-management**? For example, by taking responsibility, managing time and tasks effectively, monitoring your own performance or having the ability to work unsupervised.

|  |
| --- |
|  |

How did you demonstrate **planning and organising**? For example, by time management, setting priorities, making decisions, setting goals, collecting, or analysing and organising information.

|  |
| --- |
|  |

How did you demonstrate the use of **technology**? For example, by being prepared to use a range of technology systems, IT skills (typing or data entry), or being able to learn new skills from the technology used in this industry.

|  |
| --- |
|  |

How did you demonstrate **learning**? For example, by being willing to learn new things, being open to new ideas or adapting to change.

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|  |

How did you demonstrate **initiative and enterprise**? For example, being creative, adapting to new situations, turning ideas into actions, coming up with a variety of options.

|  |
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|  |

Summary of industry learning

At the conclusion of your SWL for this VET qualification, think about the experiences you have had in the workplace, your reflection of learning against the UoCs and the employability skills you have developed.

How will these learnings assist you in your pathway to employment or further training in this industry?

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| --- |
|  |

Student declaration

I confirm that I have undertaken work placement with:

|  |  |  |
| --- | --- | --- |
| **Employer/Company/Business name** | **Dates of placement** | **Total hours of placement** |
|  |  |  |
|  |  |  |
|  |  |  |
| **TOTAL** |  |  |

I have completed the reflections and evidence submitted in this WLR and they are from my own experiences.

**Signed** (Student)

**Name**

**Date**