VCE VET Plumbing

Program Booklet

**Incorporating**

22304VIC Certificate II in Plumbing

(Pre-apprenticeship)

January 2020

This program was first implemented in October 2018

Modification history

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Status | Release Date | Comments |
| 2.0 | Current | January 2020 | Updated Program Booklet to new VCAA style guide and branding |
| 1.0 | Superseded | October 2018 | Original Program |

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Introduction

VCE VET programs are vocational training programs approved by the Victorian Curriculum and Assessment Authority (VCAA). VCE VET programs lead to nationally recognised qualifications, thereby offering students the opportunity to gain both the VCE and a nationally portable vocational education and training (VET) certificate. VCE VET programs:

* are fully recognised within the Units 1 to 4 structure of the Victorian Certificate of Education (VCE) and therefore may contribute towards satisfactory completion of the VCE. VCE VET units have equal status with other VCE studies
* may contribute to the satisfactory completion of the Victorian Certificate of Applied Learning (VCAL)
* function within the National Training Framework.

Program development

This iteration of the VCE VET Plumbing program was implemented in 2018. It must be used in conjunction with the accredited curriculum, 22304VIC Certificate II in Plumbing (Pre-apprenticeship).

The Victorian accredited 22304VIC Certificate II in Plumbing (Pre-apprenticeship) provides students with the knowledge and skills for entry into an apprenticeship (Certificate III in Plumbing) in one of the various sectors of the plumbing industry.

Program information

This program booklet must be read in conjunction with the *VCE VET Program Guide* and the Victorian accredited curriculum 22304VIC Certificate II in Plumbing (Pre-apprenticeship).

Industry overview

Accredited course

The plumbing industry in Australia is a highly regulated sector of the building and construction industry. It consists mainly of small business operators and contractors.

The plumbing industry has had a long association with, and has offered considerable support for, pre-apprenticeship training. Whilst it is not the only pathway to employment, stakeholders encourage new entrants to have a range of basic skills that promote safety and an understanding of how the industry works before commencing a full-time apprenticeship.

This qualification has a range of units that introduce the learner to basic plumbing skills and knowledge including:

* working safely as part of a team
* measuring and calculating
* using basic industry terminology to communicate effectively
* reading plans and specifications
* selecting and using plumbing tools, equipment and materials
* producing simple technical drawings
* using basic welding equipment
* using plumbing pipes, fittings and fixtures to simulate plumbing installations.

The VCE VET Plumbing Program allows for credit in the VCE and VCAL, and a nationally recognised qualification. This qualification is an endorsed accredited curriculum which can be found at: <[www.education.vic.gov.au/Documents/training/providers/rto/curr22304VICplumbing.pdf](https://www.education.vic.gov.au/Documents/training/providers/rto/curr22304VICplumbing.pdf)>.

Qualifications / packaging rules

22304VIC Certificate II in Plumbing (Pre-apprenticeship)

Students must achieve 19 core units of competency to gain 22304VIC Certificate II in Plumbing (Pre-apprenticeship).

All units are core to provide a consistent outcome for graduates with basic skills that allows for employment across all streams of plumbing.

Where the full course is not completed a Statement of Attainment will be issued for any completed unit.

Students who complete the unit *CPCCOHS1001A Work safely in the construction industry* may apply to WorkSafe Victoria for a Construction Induction Card (CI Card). Students who visit a construction site will require a Construction Induction Card issued by WorkSafe Victoria. Further information is available at <[www.worksafe.vic.gov.au/](https://www.worksafe.vic.gov.au/)>.

The accredited course details are available at: <[www.education.vic.gov.au/Documents/training/providers/rto/curr22304VICplumbing.pdf](https://www.education.vic.gov.au/Documents/training/providers/rto/curr22304VICplumbing.pdf)>.

VCE VET Program details

Aims

The VCE VET Plumbing program aims to:

* provide participants with the knowledge, skills, and competency that will enhance their training and employment prospects in the Plumbing industry
* enable participants to gain a recognised credential and to make an informed choice of vocation or career path
* provide students with a broad-based underpinning competencies in a range of plumbing skills such as using plumbing tools, equipment and materials, using plumbing pipes, fittings and fixtures to simulate plumbing installations and reading plans and specifications, which will prepare them for entry-level employment in the industry through an apprenticeship
* provide students with knowledge of a range of occupations at the plumbing trade level enabling graduates to make informed choices in the selection of vocational career paths
* provide students with knowledge of industry terminology and welding equipment
* provide students with social and interpersonal skills relevant to participation in the plumbing industry by integrating general competencies as part of the course curriculum.

Program structure

The VCE VET Plumbing program comprises one certificate II with VCE VET credit at Units 1 to 4 level. Certificates II are typically completed over two years.

The identified units of competency in the VCE VET Plumbing program have been selected for recognition purposes and may vary from the qualification packaging rules.

The VCAA mandates that the following two units of competency be undertaken during the first year of the program.

* *CPCCOHS1001A Work safely in the construction industry*
* *CPCPCM2039A Carry out interactive workplace communication*.

VCE VET Credit

Students undertaking the VCE VET Plumbing program are eligible for up to five VCE VET units on their VCE or VCAL statement of results:

* three VCE VET Units at Units 1 and 2 level
* a VCE VET Units 3 and 4 sequence.

VCE VET credit will accrue in the following order: Units 1, 2, 3, 4, and 1. These units of credit may be accumulated over more than one year.

Nominal hour duration

Nominal hours represent the supervised structured learning and assessment activities required to sufficiently address the content of each unit of competency.

Nominal hours are used to determine credit into the VCE or VCAL for VET units of competency.

Duplication

When a VCE VET program significantly duplicates other VCE studies or VET training in a student’s program, a reduced VCE VET unit entitlement may apply. Credit towards the VCAL may also be reduced due to duplication.

No significant duplication has been identified between the VCE VET Plumbing program and other VCE studies.

Sequence

Certain units of competency will complement each other, lending to coordinated delivery that minimises content overlap. Units of competency have guidelines on the different situations and delivery contexts, and a range of delivery sequences are possible.

The intention of VCE VET programs is to provide students with a qualification that meets industry expectations. The strong advice and assumption of industry bodies is that the quality of the qualification is compromised when foundation training is neglected.

The sequencing of units of competency is determined by the registered training organisation, teacher or trainer.

It is recommended that the potential students have basic communication, literacy and numeracy skills that are sufficiently well developed for them to participate in the training.

VCE VET Plumbing program structure

22304VIC Certificate II in Plumbing (Pre-apprenticeship)

|  |  |  |
| --- | --- | --- |
| Code | Unit Title | Nominal  Hours |
| **Units 1 to 4** | | |
| **Compulsory units:** | | |
| **VCAA mandates the completion of these two units in Year 1 of the program:** | | |
| CPCCOHS1001A | Work safely in the construction industry | 6 |
| CPCPCM2039A | Carry out interactive workplace communication | 10 |
| **Delivery of these units is flexible over Year 1 and Year 2 of the program:** | | |
| CPCCOHS2001A | Apply OHS requirements, policies and procedures in the construction industry | 20 |
| CPCCCM1015A | Carry out measurements and calculations | 20 |
| CPCCCM2001A | Read and interpret plans and specifications | 36 |
| BSBWRT301 | Write simple documents | 30 |
| CUVACD303A | Produce technical drawings | 50 |
| HLTAID002 | Provide basic emergency life support | 8 |
| VU21789\* | Apply basic sheet metal practices | 50 |
| VU21790\* | Cut and penetrate building materials and structures | 30 |
| VU21791\* | Fabricate simple plumbing pipe systems | 30 |
| VU21792 | Identify career pathways in the plumbing industry | 30 |
| VU21793\* | Perform basic oxy-acetylene welding and cutting | 20 |
| VU21794 | Prepare to work in the plumbing industry | 20 |
| VU21795 | Use and apply basic levelling equipment for plumbing | 8 |
| VU21796\* | Use basic electric welding equipment and techniques | 20 |
| VU21797\* | Use basic plumbing hand tools | 50 |
| VU21798\* | Use basic power tools | 20 |
| VU21799\* | Use plumbing pipes, fittings and fixtures to simulate plumbing installations | 30 |
| **Total hours for the program:** | | **488** |

Notes

\* Prerequisite CPCCOHS1001A Work safely in the construction industry

ATAR Contribution

The VCE VET Plumbing program does not offer scored assessment. A student who achieves a Units 3 and 4 sequence may be eligible for an increment towards their ATAR.

The increment is awarded by the Victorian Tertiary Admissions Centre (VTAC). Further information can be found on the VTAC website:

* study rules: <[www.vtac.edu.au/results-offers/atar-explained/study-rules](http://www.vtac.edu.au/results-offers/atar-explained/study-rules.html)>
* study groupings: <[www.vtac.edu.au/results-offers/atar-explained/study-groupings](http://www.vtac.edu.au/results-offers/atar-explained/study-groupings.html)>.

Increments for VCE VET programs will be calculated using 10% of the lowest study score of the primary four.

Structured workplace learning

The VCAA has determined that Structured Workplace Learning (SWL) is an appropriate and valuable component of all VCE VET programs. SWL involves on-the-job training in which students are required to master a designated set of skills and competencies related to VCE VET programs.

SWL complements the training undertaken at the school/RTO. It provides the context for:

* enhancement of skills development
* practical application of industry knowledge
* assessment of units of competency, as determined by the RTO
* increased employment opportunities.

The VCAA strongly recommends that students undertake a minimum of 80 hours of SWL for the VCE VET Plumbing program. SWL should be spread across the duration of the training program.

Further details regarding SWL, the SWL Portal and the Department of Education and Training SWL Manual is available on online: [<www.education.vic.gov.au/school/teachers/teachingresources/careers/work/Pages/structuredlearning.aspx](http://www.education.vic.gov.au/school/teachers/teachingresources/careers/work/Pages/structuredlearning.aspx)>.

The SWL Manual outlines roles and responsibilities of the student, parent, employer and principal; procedures and guidelines for placing students in the workplace; and relevant policy and legislation. The manual also has a link to Ministerial Order 55 and the SWL Arrangement form.

SWL Recognition

Structured Workplace Learning (SWL) recognition involves the development and maintenance of the Workplace Learning Record (WLR) by the student. The work placement must be in an industry area aligned to the VET certificate drawn from the VCE VET Plumbing program. The completion of the WLR is a requirement for recognition by the VCAA for VCE and VCAL credit.

The VCE VET Plumbing program offers SWL recognition. Further details are available at: <[www.vcaa.vic.edu.au/curriculum/vet/vce-vet-programs/Pages/plumbing.aspx](https://www.vcaa.vic.edu.au/curriculum/vet/vce-vet-programs/Pages/plumbing.aspx)>.

Work health and safety

Schools/RTOs must ensure that Work Health and Safety (WHS) issues are fully addressed in the training program.

The principal is responsible for ensuring the school meets its responsibilities for students in SWL arrangements.

Where the student will be employed under an SWL arrangement, the principal must be satisfied that the student is undertaking training in the WHS unit of competency before the arrangement can be entered into.

Students must be informed of the significance of work-related hazards. They must understand the need for, and the nature of, workplace risk controls such as safe working procedures and the use of personal protective clothing and equipment.

Schools must also be satisfied, through their review of the acknowledgment provided by employers on the SWL Arrangement form, that the workplace in question and the activities proposed will not expose a student to risk during their structured work placement.

Employers must view their duty of care towards students as essentially no different from that owed to their employees. They must understand that students cannot be expected to possess the judgment or maturity to undertake any task that presents potential risk. This means that no student may be exposed at any time to dangerous plant machinery, equipment, substances, work environments or work practices.

On the first morning of their placement, students should be introduced to their supervisor and provided with a formal induction to the workplace. This will include first aid, emergency and incident reporting arrangements.

The student should be given an orientation tour of the workplace and any excluded areas or activities should be pointed out. Students should be instructed to report without delay anything they feel may be unsafe. They should be encouraged to ask for help or further instruction if they are not sure of the correct way to carry out any task.

Close supervision of students undertaking SWL is essential. Supervisors nominated by the employer must understand all requirements for safely managing the student’s activities. Supervisors must understand that a student may not fully grasp information or instructions the first time they are told. They should encourage students to ask for help if they have forgotten or if they experience difficulty in putting information into practice.

The WorkSafe Victoria website makes available useful resources: [<www.worksafe.vic.gov.au](http://www.worksafe.vic.gov.au)>.

Additional information

For updates or information relating to this program refer to:

* the VCE VET Plumbing program web page: <[www.vcaa.vic.edu.au/curriculum/vet/vce-vet-programs/Pages/plumbing.aspx](https://www.vcaa.vic.edu.au/curriculum/vet/vce-vet-programs/Pages/plumbing.aspx)>
* the *VCAA* *Bulletin*: <[www.vcaa.vic.edu.au/news-and-events/bulletins-and-updates/bulletin/Pages/index.aspx](https://www.vcaa.vic.edu.au/news-and-events/bulletins-and-updates/bulletin/Pages/index.aspx)>
* the Get VET web page for videos, success stories, flowcharts and posters designed to support teachers in engaging, informing and inspiring students and parents about VET Delivered to Secondary Students: <[www.vcaa.vic.edu.au/getvet](https://www.vcaa.vic.edu.au/getvet)>.

Pathways

The VCE VET Plumbing program opens up many different training and employment pathways. The VCAA recommends study at the lower levels to develop industry foundation skills before moving to higher level qualifications.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Certificate II** |  | Certificate II in Plumbing (Pre-apprenticeship) |  | Stepping-stone towards an apprenticeship |
| Certificate II in Drainage | Drainer |
|  |  |  |  |  |
| **Certificate III** |  | Certificate III in Plumbing |  | Six specialist streams: Water, Sanitary, Drainage, Mechanical services, Roofing, Gas services |
| Certificate III in Gas Fitting | Gas Fitter |
| Certificate III in Roof Plumbing | Roof Plumber |
|  |  |  |  |  |
| **Certificate IV**  **Diploma**  **Advanced Diploma**  **Higher Education** |  | Certificate IV |  | Certificate IV in Plumbing and Services  Certificate IV in Building and Construction (Specialist Trades)  Certificate IV in Swimming Pool and Spa Building |
|  |  |  |  |
|  | Diploma / Advanced Diploma |  | Diploma of Plumbing and Services  Diploma of Fire Systems Design  Diploma of Building and Construction (Management)  Advanced Diploma of Building and Construction (Management) |
|  |  |  |  |
|  | Higher Education |  | Graduate Certificate in Fire Systems Design Management  Diploma of Plumbing Engineering Hydraulic Services  Associate Degree in Engineering (Mechanical Engineering) |

Appendix – Sample program

22304VIC Certificate II in Plumbing (Pre-apprenticeship)

|  |  |  |
| --- | --- | --- |
| Code | Unit Title | Nominal  Hours |
| **Units 1 to 4** | | |
| **Year 1** | | |
| CPCCOHS1001A | Work safely in the construction industry | 6 |
| CPCPCM2039A | Carry out interactive workplace communication | 10 |
| CPCCCM2001A | Read and interpret plans and specifications | 36 |
| CPCCCM1015A | Carry out measurements and calculations | 20 |
| HLTAID002 | Provide basic emergency life support | 8 |
| VU21789 | Apply basic sheet metal practices | 50 |
| VU21797 | Use basic plumbing hand tools | 50 |
| VU21798 | Use basic power tools | 20 |
| BSBWRT301 | Write simple documents | 30 |
| VU21794 | Prepare to work in the plumbing industry | 20 |
| **Year 2** | | |
| CPCCOHS2001A | Apply OHS requirements, policies and procedures in the construction industry | 20 |
| CUVACD303A | Produce technical drawings | 50 |
| VU21790 | Cut and penetrate building materials and structures | 30 |
| VU21791 | Fabricate simple plumbing pipe systems | 30 |
| VU21792 | Identify career pathways in the plumbing industry | 30 |
| VU21793 | Perform basic oxy-acetylene welding and cutting | 20 |
| VU21795 | Use and apply basic levelling equipment for plumbing | 8 |
| VU21796 | Use basic electric welding equipment and techniques | 20 |
| VU21799 | Use plumbing pipes, fittings and fixtures to simulate plumbing installations | 30 |
| **Total Sample Program Hours:** | | **488** |