



(MEM40412)

Certificate IV in Engineering Drafting

Future-proof your career with enhanced skills in computer-aided design (CAD) to support large projects with advanced models, technical drawings and assembly schematics

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Federation University Australia acknowledges the Traditional Custodians of the lands and waters where our campuses, centres and field stations are located and we pay our respects to Elders past and present. We extend this respect to all Aboriginal and Torres Strait Islander and First Nations Peoples.

The Aboriginal Traditional Custodians of the lands and waters where our campuses, centres and field stations are located include:

Wimmera	Wotjobaluk, Jaadwa, Jadawadjali, Wergaia, Jupagulk
Ballarat	Wadawurrung
Berwick	Boon Wurrung
Gippsland	Gunai Kurnai
Nanya Station	Mutthi Mutthi and Barkindji
Brisbane City	Turrbal and Jagera



Welcome to Federation TAFE

There are not many experiences as rewarding as studying at TAFE. And at Federation, you'll be welcomed with open arms by industry-experienced, passionate teachers and hands-on learning experiences.

We offer a broad range of courses across major trade sectors including automotive, business, IT, building and construction, community and children services, cookery, brewing, hairdressing, beauty services, engineering, manufacturing and rural sciences among many others.

Studying at TAFE ticks all the boxes for a great hands-on learning experience – providing you with the skills employers need, and the right tools for a career in your preferred industry.

And with more than 150 years' experience training the next generation of skilled tradespeople, we know a thing or two about transforming the lives of our students and responding to the growing need for new skills in our local communities.

So, if you are looking to start your career, upskill in your chosen field or switch industries all together, Federation TAFE will get you to where you want to be and ensure that you feel supported in the process.



FREE TAFE

at Federation

Take advantage of the many free TAFE courses offered at Federation and have your studies fully funded by the Victorian Government.

Free TAFE is a Victorian Government initiative aimed at supporting Victorians to get the skills needed to address critical workforce shortages, regardless of their previous qualifications.

Does it cover all my fees?

If you are eligible, Free TAFE pays the tuition fees for your whole course. Other fees may still apply, such as student services fees or materials fees that you will have to pay for yourself.

Am I eligible for Free TAFE?

Any Australian citizen, permanent resident or New Zealand citizen is eligible to do one Free TAFE Priority Course as long as:

- you are undertaking the training in Victoria
- you are not attending a school (this doesn't include a TAFE) or registered for home schooling in Victoria
- you have not started or be scheduled to start more than two government-subsidised courses in a year
- you will not be undertaking more than two government programs – either courses or skill sets – at any one time.

You may be eligible to complete more than one Free TAFE course if it's included in the Free TAFE pathways initiative.

[Click here to see all Free TAFE pathways and eligibility criteria >](#)





Why study a Certificate IV in Engineering Drafting (MEM40412) at **Federation TAFE**

We're the largest dual-sector university in regional Victoria

Whichever program you choose to study, you will be part of our Federation community and have access to the many incredible services and opportunities that Federation University offers. This includes modern learning facilities and equipment, industry-experienced teachers, work integrated learning opportunities, industry engagement, and extensive support services.

And if you choose to study at Federation, you can utilise your certificate or diploma as a pathway to access entry into undergraduate or postgraduate degrees.

Outstanding facilities

Part of preparing you for work means providing you with state-of-the-art training facilities, equipment and design software. Our SMB campus is home to our Manufacturing and Engineering Skills Centre, which is fully stocked with all the tools and supplies you need to bring your designs to life.

Here you'll have access to a fully equipped engineering workshop with lathes, guillotines, and welders. You'll also have access to 3D printers, a 3D scanner, tensile testing machines, charpy impact test, CNC plasma cutter, and Mazak CNC lathe and mill.

You'll also have access to a professional suite of design software products such as AutoCAD and inventor professional for precise 2D and 3D drafting, design, and modelling with solids, surfaces, mesh objects and more.

Throughout your studies you'll be welcome to make the most of these tools and technologies while under the supervision of our experienced and friendly teachers.

Teachers who've been in your shoes

You'll be learning from some of the best in their field. Our professional staff are highly respected for their individual skills and knowledge gained while operating within their vocational fields. They maintain extensive contacts within industry to stay abreast of innovation and development.

Our course is designed to fit around you

You asked, and we listened. We now offer our Certificate IV in Engineering Drafting (MEM40412) with the flexibility to study at your own pace. We offer you the choice to attend classes in person at our SMB Campus, or study at your own pace online.

With this high level of flexibility, you can easily find the right balance between your studies, work, family and any other commitments.

We incorporate the latest digital technology to complement our training methods, so if you choose to study online you will require access to the internet and a computer that is capable of running computer-aided design (CAD) software. Our online learning system allows you to study in a safe, guided and fully supported manner with the same access to all learning, personal and wellbeing supports.



Course Overview

With the Certificate IV in Engineering Drafting (MEM40412), you can improve your skills and knowledge for more career opportunities across the mechanical and manufacturing sectors, or use this course as a stepping stone to higher qualifications.

This program will suit school leavers, mature students returning to work or study as well as those with trade experience who are looking to transition into a design office. It is also available as a traineeship for students in employment with a training agreement.

Areas of study include:

- prepare sketches, charts, plans, 3D models and digital designs
- calculate and perform stress testing
- interpret work assignment instructions and select equipment
- collect and analyse data, and carry out computations
- estimate material costs and plan finished works.

Additional information will be provided at the information/induction session.



What's in the detail?

Program information

Award	On completion of this course, you will be awarded the nationally accredited Certificate IV in Engineering Drafting (MEM40412)
Course Code	MEM40412
Start dates	Classes run from March to December. This course accepts 'rolling enrolments', which means students can pick up their studies at any time.
Duration	12 months
Contact Hours	<p>You can expect classes to take place online on Wednesdays from 1:00 pm to 9:00 pm online, and on-campus on Thursdays from 8:30 am to 4:30 pm</p> <p>Additional study time is required to complete assessments, classroom readings and activities. We recommend approximately eight hours per week for these activities.</p>
Study Load	Study at your own pace
Available locations	Ballarat – SMB Campus, and online
Study Modes	Combination of in person at our SMB Campus and online
Scholarships	<p>Our scholarships and grants can help with your study costs.</p> <p>Explore our scholarships to find an opportunity that's right for you ></p>
Entry requirements	There are no prerequisites for this program. All TAFE applicants are required to complete a Language, Literacy and Numeracy (LLN) assessment and any other supporting documents as part of the application process.
Technology requirements	<p>To have the best possible experience it is recommended to have a computer able to run 3D computer-aided design (CAD) modelling software.</p> <p>Find out more about minimum IT requirements ></p>
Fees	<p>The tuition fees you will pay depend on your eligibility for a Victorian Government subsidised place under the Skills First Program.</p> <p>Find out if you are eligible for a subsidised place here ></p> <p>2023 total estimated tuition fees for Certificate IV in Engineering Drafting (MEM40412):</p> <p>Concession Government Subsidised Place \$508.40</p> <p>Standard Government Subsidised Place \$2,542</p> <p>Full Fee Place (Not eligible for government subsidy) \$10,292</p> <p>Visit our fees and charges page for more information ></p> <p><i>*Fees displayed are estimates for the total program and may change depending on individual circumstances at enrolment. Fees are subject to change annually.</i></p>

What you will study

The Certificate IV in Engineering Drafting (MEM40412) is made up of several units or modules that you will need to pass.

COURSE CONTENT	
How many units required for successful completion?	<ul style="list-style-type: none">• Number of Units required for successful completion: 15• Number of Core Units: 4• Number of Electives: 11
CORE UNITS	ELECTIVE UNITS
<ul style="list-style-type: none">• Organise and communicate information MEM16006A• Interact with computing technology MEM16008A• Apply mathematical techniques in a manufacturing engineering or related environment MEM30012A• Participate in environmentally sustainable work practices MSAENV272B	<ul style="list-style-type: none">• Interpret technical drawing MEM09002B• Produce basic engineering detail drawings MEM09204A*• Create 3-D solid models using CAD system MEM09210A*• Produce schematic drawings for hydraulic and pneumatic fluid power systems MEM09213A*• Perform engineering measurements MEM12023A• Report technical information MEM16014A*• Operate CAD system to produce basic drawing elements MEM30031A• Use CAD to create and display 3-D models MEM30033A*• Calculate force systems within simple beam structures MEM30005A*• Calculate stresses in simple structures MEM30006A*• Select common engineering materials MEM30007A

* Unit has a prerequisite

Information contained in this table is subject to change.

[Current version available here.](#)

Hear from our students



Emily Egan

Certificate IV in Engineering Drafting

Emily Egan works as a computer-aided design (CAD) draftsman for a civil construction engineering company. She decided to study the Certificate IV in Engineering Drafting at Federation TAFE to upgrade her qualifications and pay.

Emily says Federation has good facilities for hands-on learning. "There's lots to do in the workshop; lots of interaction in the classroom too. At this stage we have done a lot of material testing, so we've used the tensile tester, the hardness test, the charpy test and we've done a lot of experiments. The lecturer has also run us through a 3D printer. We've done a couple of scans on that too.

"I'm finding the work quite easy honestly – my lecturer is very good."

Emily is about halfway through the course and is already planning further study.

"I would like to do small house design in sustainable living," she said. "I'm really interested in sustainability. I think it's honestly the way of the future, being more careful about the materials that we are using and the impact that we are having."

Pathways for further study

Federation offers specialised engineering pathway courses from TAFE to Higher Education so you can progress your studies as far as you want to go. Choosing to continue your studies will provide you with greater knowledge and expertise in specific areas of interest, access to higher pay, and the potential of future employment when demand is high.

Engineering Drafting pathway

Certificate IV in Engineering Drafting (MEM40412) – 12 months

A Certificate IV in Engineering Drafting (MEM40412) is the best place to start, designed for anyone who wants to get started or enhance their skills in producing detailed drawings and plans for engineering works.



Diploma of Engineering – Technical (MEM50212) – 18 months

Once you've completed the Certificate IV, you can take 12 credits off the Diploma of Engineering – Technical (MEM50212), with only 8 more units needed to advance your qualification. It's the next step for anyone with the passion for turning energy into power, and a future career in hydraulic power, robotics, ergonomics or even teaching these skills.



Bachelor of Engineering – 4 years

Majors include: Electrical and Information Engineering, Civil Engineering, Mechanical or Mining.

Want to become a master engineer? Take your hard-earned TAFE credits and take a single semester off your bachelor degree, with 60 credits towards a Bachelor of Engineering at Federation University. Our Bachelor of Engineering will provide incredible opportunities such as a two-year professional development program and scholarships worth up to \$15,000. It's a widely recognised program with areas of specialisation and is accredited by Engineers Australia.

Please note: additional essential requirements for admission may apply to entry into these programs.

Federation TAFE's admissions process

Ready to apply? Click below to get started or book a call with a course adviser to get help.

[Apply now →](#)

[Book a call →](#)

1. Check the entry requirements

Make sure you know the entry requirements for your selected program. To search and confirm the entry requirements of your chosen TAFE course, refer to our [Course Finder](#).

2. Have your ID and USI number ready

Make sure you have a copy of your current ID – this can be your birth certificate, Medicare card or passport. You'll also need to provide your Unique Student Identifier (USI), or create your USI if you don't have one.

[Confirm your USI details >](#)

3. Confirm your eligibility for funding

Understand your program fees and eligibility for government funding.

[See detailed information >](#)

4. Apply

In your application you will have the opportunity to tell us about yourself and why you are applying to Federation TAFE. We are interested in what is motivating you to study the program you have chosen, and about your interests and achievements.

[Apply direct >](#)

5. Complete your application tasks

Once you have submitted the online application form, you will be required to complete a Language Literacy and Numeracy test (LLN).

Some TAFE courses will have specific tasks such as completion of a pre-training interview. All tasks will be listed on the application portal if they are applicable to the course.

6. Wait for your admission email

Once your application is assessed, you may receive an offer to study at Federation TAFE. If you receive an offer, you won't need to do anything until you receive your enrolment details.

7. Enrol

Before starting at TAFE, you will receive information about enrolment. This is when you will receive information about setting up your My Student Centre account, support services, and learn about your upcoming course timetable.





We work hard so that work finds you

Here at Federation TAFE, we provide many employability programs aimed at improving your future career. And thanks to our experienced staff and long history, we have some of the strongest industry and business relationships in Australia.

Federation TAFE is ahead of the national Vocational Education and Training (VET) average in the following employment outcomes*:

Better job security

76.7% of graduates had an improved employment status after training.

Greater career opportunities

71.4% of students were employed before training. Of these, 28.8% were employed at a higher skill level after training.

More likely to find employment

28.6% of students were not employed before training. Of these, 65% were employed after training.

Work Integrated Learning

Work Integrated Learning (WIL) combines classroom learning with work experience for specific programs. We utilise our strong connections with leading businesses and organisations to link you to a workplace related to your course and better prepare you for your future career.

**Source: National Centre for Vocational Education Research (NCVER) survey results, 2022*

TAFE Placements

Many of our courses require students to complete practical placement hours in a workplace to meet their course requirements and those required by industry. Our team will help to find placement opportunities with local businesses in your chosen study area.

Placements provide you with:

- experienced supervisors and mentors in the workplace
- first-hand training and experience working with an established organisation
- work-ready skills
- improved understanding of how theory relates to workplace practice.

Prior to placement, we help guide you through the mandatory documents required (police check, Working with Children Check, etc.) and then confirm your placement hours.

Skills and Jobs Centre

Our Skills and Jobs Centres in Ballarat and Horsham are a Victorian Government initiative, and work with our students to provide career advice, develop their employability skills, and help them find a job.

Through our strong relationships with industry, the Skills and Jobs Centre helps to connect students with genuine employment opportunities in their chosen field.

We're renowned for supporting our students

We understand that starting or returning to study is exciting, but that it also involves change with a challenge or two along the way.

Support services

We want all our students to feel good so that they can concentrate on what matters – study, friends, family and life outside of TAFE.

- Accommodation
- Scholarships and grants
- Equity and inclusion
- Health services
- Complaints
- Aboriginal Education Centre
- Safer campuses
- Counselling
- Disability support
- Financial information and support
- International student advisory
- Chaplaincy
- Justice of the peace
- Student advocacy
- Children's centres (child care)

Study support

At Federation TAFE we offer a free tutor service to all enrolled students who need a little more help with literacy and numeracy. See more study support services offered below:

- ASK desk
- Free literacy and numeracy support
- IT support
- Learning skills advisors
- Library
- Online systems help
- Online study hub and booklet
- PASS (Peer Assisted Study Support) program
- Student mentors
- Studiosity study skills
- Subject guides



Discover our campuses

Our campuses are located in the booming regional areas of Central Victoria.

Gillies Street Campus

Our Gillies Street Campus is home to our Horticulture and Conservation and Ecosystem Management courses - where you'll gain fieldwork experience in the surrounding Ballarat Botanical Gardens and large wetlands area.

Mt Helen Campus

Our Mt Helen Campus hosts a wide range of modern facilities for both TAFE and Higher Education courses. The campus is located 10 kilometres from the city centre of Ballarat on 110 hectares of natural bushland, which attracts colourful bird species as well as resident kangaroos and koalas.

Mt Rowan Campus

At our Mt Rowan site, you can study our Agriculture courses. You'll learn the business of farming, and how to use the kind of equipment and facilities you can expect to find in modern agricultural enterprises.

School of Mines Ballarat (SMB) Campus

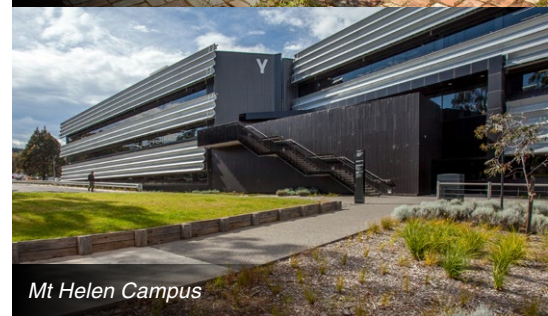
Our SMB Campus is home to Federation TAFE and is located in the heart of Ballarat. The SMB Campus provides an attractive, historical environment dating back to 1870. This campus is also home to our purpose-built building and construction centre, manufacturing and engineering skills centre and our unistyle hair and beauty services centre.

Wimmera Campus

Our Wimmera Campus delivers education and training throughout Horsham and surrounding regions. The Wimmera Campus delivers TAFE programs, university-level courses and research.



Gillies Street Campus



Mt Helen Campus



Mt Rowan Campus



SMB Campus



Wimmera Campus

Book a consultation today →

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