

MEM30305 Certificate III in Engineering - Casting and Moulding (Foundry)

22/10/2019



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Why GOTAFE



- After the closure of other training programs such as the Marine craft training program GOTAFE, with industry support, developed a flexible training model.
- This model enabled training to continue in industries that other providers were not going to remain.
- The model has had minor changes over the 6 years due to industry and trainer feedback.
- GOTAFE have been approached by other states to deliver training in niche markets.

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GOTAFE's flexible training model



- Developed to assist business that require an on the job training program for all or part of the training contract.
- GOTAFE will provide training under an approved Training Scheme as nominated on the training contract. In conjunction with the employer, apprentice and school representative (if required)
- GOTAFE will develop a customised Training Plan to suit your business and make a minimum of four (4) contacts per annum with the apprentice/trainee and employer.
- For a first year apprentice it is recommended that they attend 8 face to face sessions to assist them to undertake the required training. In the 2nd and 3rd years 4 sessions are recommended.

GOTAFE's flexible training model



Employer / Supervisor Obligations:

- Provide the appropriate facilities and equipment to facilitate the training and supervise the apprentice/trainee while at work, in accordance with the training plan.
- Ensure the apprentice/trainee receives on the job training and collect evidence towards assessment in accordance with the Training Plan.
- Provide work that is relevant and appropriate to the vocation and also to the achievement of the qualification referred to the contract.
- Release the apprentice/trainee from work and pay the appropriate wages to attend any training and assessment specified in the Training Plan.

Obligations for workplace based training activities:

- Your apprentice will be withdrawn from routine work duties for structured training activities for a minimum of 3 hours per week or a minimum of 12 hours averaged over 4 weeks.

GOTAFE Training contact information



- Student and Employer will receive an email with a link to complete an online application.
- A trainer will organise a meeting to discuss training plan and complete paper work. Training may start at this point
- Fees and charges for first 15 students 50% off normal fees
 - Tuition \$1 per SCH
 - Materials .20 cents per SCH
 - 1000 SCH for the qualification

Funding application



- 2018 GOTAFE met with the AFI Victoria, Victorian Skills commissioner, Industry members & *MESAB
- It was decided that GOTAFE would put in a funding application to support the training program.
- GOTAFE received letters of support from businesses and the AFI Vic and submitted its application
- In Dec 2018 GOTAFE were successful with the application.
 - Higher funding rate for 15 apprentices
 - Funding for the development of new VR resources
 - Funding for contextualising of resources and to support the program.
 - Laptops and GoPro's to assist students with training.

* Manufacturing, Engineering & Automotive Inc Aerospace, Medical Technology, Defence Technology, Pharmaceuticals, Transport Technology, Furnishing, Textiles, Clothing and Footwear.

Virtual reality training



- <https://vimeo.com/316477148>



Current Numbers



Employer	Apprentice Numbers
KEECH CASTINGS	5
BRADKEN	1
BILLMANS FOUNDRY	1
IXL Foundry	1
BECKWITH IRON & STEEL PTY LTD	2

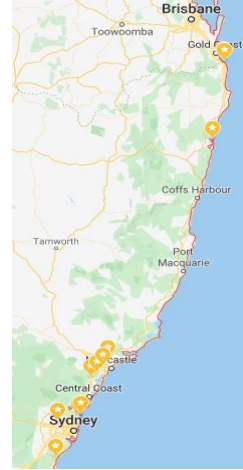
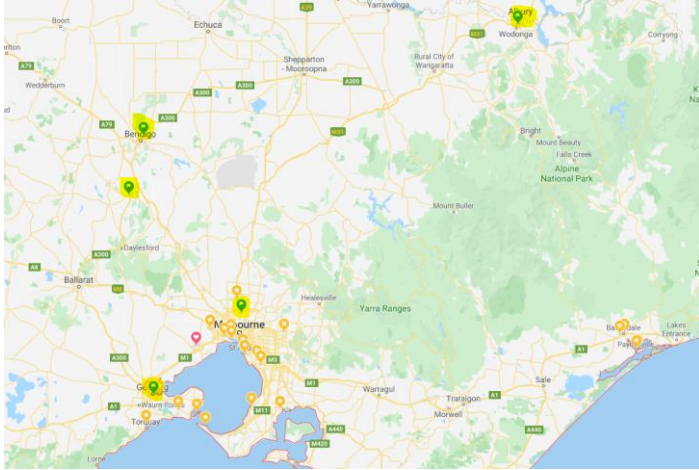
Casting and Moulding 4 apprentices
 Patten Making 6 apprentices

5 spots still available in Victoria – funding runs out in November

Delivery Models:

Work place based 1 day per month visit from Trainer & TAFE Based 3 days per week for 7-9 weeks

Current business locations



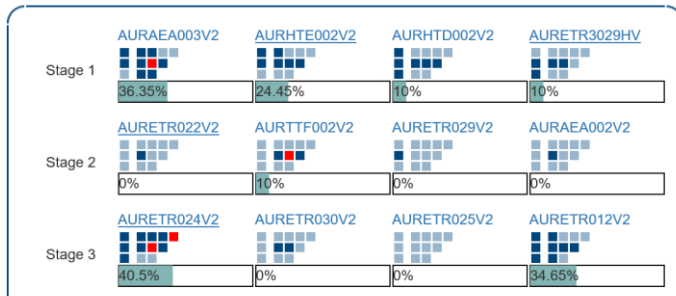
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Online learning



Reviewing details for Jims Student 1

FEEES HAVE NOT BEEN PAID!



Teacher Comments:

11 Feb 2019 08:40PM

Jim has been working on how to pour a cast using hot molten metal. Jim is currently on track to complete his apprenticeship within his contract period.

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Current Apprentice Qualification-

MEM30305 - Certificate III in Engineering - Fabrication Trade



The incentives for a Certificate III in Engineering – Casting and Moulding is not on the NSNL. As a consequence of this, there is no employer funding for existing workers.

Please see below the new worker rules

- **New Entrant Apprenticeship/traineeship** is defined as a person employed within an enterprise for not more than three months full-time or 12 months part-time or casual or any combination of the above for a continuous period not exceeding 12 months.
- **Note:** Such persons must not have been employed at all by the applicant employer for at least six months prior to such full-time employment and twelve months prior to such part-time or casual employment.
- **Existing Worker Apprenticeship/Trainee** is defined as a person who has been employed within an enterprise continuously for more than 3 months full-time or 12 months casual or part-time or a combination of both, immediately prior to commencement of the training contract.

New Apprentice Qualification-

MEM31719 Certificate III in Engineering – Casting and Moulding Trade



Qualification Description

- This qualification defines the skills and knowledge required of an engineering tradesperson - casting and moulding within the metal, engineering, manufacturing and associated industries. The qualification has been specifically developed for apprentices in the above trade. The qualification packaging has been developed on an assumption that competency will be developed through a combination of on and off-the-job learning strategies such as those delivered through a formal apprenticeship. The qualification may also be achieved through formal skills recognition assessment processes.
- The skills associated with this qualification are intended to apply to a wide range of casting and moulding work, including producing sand moulds by hand or using moulding machines, pouring and trimming castings and operating and monitoring melting furnaces.

Core units for MEM31719



Unit code	Unit title
MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12023	Perform engineering measurements
MEM12024	Perform computations
MEM13015	Work safely and effectively in manufacturing and engineering
MEM14006	Plan work activities
MEM16006	Organise and communicate information
MEM16008	Interact with computing technology
MEM17003	Assist in the provision of on-the-job training
MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations
MSMENV272	Participate in environmentally sustainable work practices

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Sample elective units for MEM31719



MEM04001	Operate melting furnaces
MEM04004	Prepare and mix sand for metal moulding
MEM04006	Operate sand moulding and core making machines
MEM04007	Pour molten metal
MEM04008	Fettle and trim metal castings/forgings
MEM04019	Perform refractory installation and repair
MEM04024	Produce moulds and cores by hand
MEM04025	Produce moulds and cores by hand (advanced)
MEM05007	Perform manual heating and thermal cutting
MEM07001	Perform operational maintenance of machines/equipment
MEM07024	Operate and monitor machine and process
MEM07032	Use workshop machines for basic operations
MEM13003	Work safely with industrial chemicals and materials
MEM13004	Work safely with molten metals/glass

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Sample unit of competence:



MEM04007 Pour molten metal

Elements and Performance Criteria

Elements describe the essential outcomes. Performance criteria describe the performance needed to demonstrate achievement of the element.

Prepare for pouring molten metal	2.1	Select equipment as required	
	2.2	Check the condition of the mould and ladle according to procedures	
	2.3	Check the temperature of molten metal for conformance to specification	
	2.4	Sequence pouring method to procedures	
	2.5	Identify the capacity of the required pour against specification	
	2.6	Preheat and prepare the ladle to receive molten metal	
Transfer ladle to furnace	3.1	Check safety clips in accordance with safety procedures	
	3.2	Fill and transfer the ladle to the pouring area	
	3.3	Determine additives from specification and add to molten metal as required	

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Sample unit of competence:



Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Ladle includes one (1) or more of the following:

- lip pour
- tea pot
- bottom pour
- barrel
- bull ladles of varying capacity

Additives include one (1) or more of the following:

- alloys
- inoculants
- spheroidisers
- coagulants

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Questions?



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