

## ENGINEERING PRODUCTION WORKER

### EDUCATIONAL PATHWAYS

#### Entry Level

Employers require applicants who have completed at least Year 10 but most prefer applicants who have successfully completed Years 11 & 12 This qualification is not suited and should not be used for people who are not employed in an engineering production or manufacturing environment. It is not suited and should not be used for school students unless they are formally engaged in a traineeship in accordance with the Australian Apprenticeships policy.

#### **MEM20219 - Certificate II in Engineering - Production Technology**

This qualification defines the skills and knowledge required of an engineering/manufacturing employee within metal, engineering, manufacturing and associated industries. The skills associated with this qualification are intended to apply to a wide range of engineering/manufacturing work, including production, distribution, stores and warehousing. It provides the skills and knowledge for a person to be responsible for the quality of their own work, work from complex instructions and procedures, coordinate work in a team environment or work individually under general supervision and assist in the provision of on-the-job training of other workers. This qualification is specifically designed to cover the skills and knowledge required of workers employed as Engineering/ Manufacturing Employees - Level IV as defined in the Manufacturing and Associated Industries and Occupations Award.

#### **MEM31719 - Certificate III in Engineering - Casting and Moulding Trade**

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. This qualification must be undertaken through a Training Contract or through formal trade 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. This qualification is designed to provide an industry recognised skills profile related to trade work as a casting and moulding tradesperson.

#### **MEM31519 - Certificate III in Engineering - Toolmaking Trade**

This qualification defines the skills and knowledge required of an engineering tradesperson - toolmaking within metal, engineering, manufacturing and associated industries. The qualification has been specifically developed for apprentices in the above trade. This qualification must be undertaken through a Training Contract or through formal trade recognition assessment processes. The skills associated with this qualification are intended to apply to a wide range of toolmaking trade work, including the manufacture, modification and maintenance of tooling. This qualification is designed to provide an industry recognised skills profile related to trade work as a toolmaking tradesperson.

#### **MSM30116 - Certificate III in Process Manufacturing**

This qualification provides the competencies required by advanced production workers who use a range of equipment and provide support functions directly related to producing products. They would undertake more advanced roles than workers with a Certificate II in Process Manufacturing, working in accordance with operating procedures and applying knowledge to anticipate problems and solve a range of foreseen and unforeseen problems.

It is designed for use across the three process manufacturing sectors:

- chemical, hydrocarbons and oil refining
- plastics, rubber and cable making
- manufactured mineral products.

The qualification covers:

production support workers - people working in manufacturing and filling the vital production support roles but who may not have the opportunity to develop competency in sufficient technical units related directly to producing products  
employees who operate across more than one category within process manufacturing or 'specialised processes' and elsewhere when required.

For further information or advise contact

[mae@agrifooditab.com.au](mailto:mae@agrifooditab.com.au)

Email: [tony@uensw.com.au](mailto:tony@uensw.com.au)



# ENGINEERING PRODUCTION WORKER

### EDUCATIONAL PATHWAYS continued

#### **MSA30208 - Certificate III in Manufacturing Technology**

This qualification is suitable for delivery as part of a one-year Technology Cadetship, or can be undertaken through an Australian Apprenticeship arrangement.

This qualification has seven specialist streams available. These are:

- CAD/drafting
- Manufacturing operations
- Laboratory operations
- Technical officer
- Metallurgy
- Polymer technology
- Structural steel detailing

#### **PMA30120 - Certificate III in Process Plant Operations**

This qualification reflects the role of advanced operators and operations technicians who use production equipment to directly produce product. At this level, operators/technicians undertake advanced operations, typically of integrated plant units in accordance with the operating procedures and apply their knowledge to anticipate problems. They are expected to solve a range of foreseen and unforeseen problems, using product and process knowledge to develop solutions to problems that do not have a known solution or a solution recorded in the procedures.

#### **MEM40119 - Certificate IV in Engineering**

This qualification defines the skills and knowledge required for a higher engineering tradesperson within metal, engineering, manufacturing and associated industries. The skills associated with this qualification are intended to apply to a wide range of engineering work undertaken in the fields of refrigeration and air conditioning, casting and moulding, computer numerically controlled (CNC) programming, fluid power, heavy fabrication, instrumentation, maintenance, plant mechanics, marine electronics, mechatronics, patternmaking, robotics, toolmaking, welding and watch and clock services and repair, including post-trade work.

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# ENGINEERING PRODUCTION WORKER

### CAREER PATHWAYS/SPECIALISATIONS

Engineering production workers can go on to become specialists in any of the following areas of production engineering

#### **Furnace Operator**

A furnace operator records time and production data, adjusts thermostats, and observes a pyrometer to maintain the temperature between specified limits. The operators set furnace control to regulate the temperature and heating time. They measure the temperature of the products to determine the necessity for adjusting furnace temperature using thermal instruments and charts. Their duties include the removal of materials from the furnace using signals overhead crane operator and transfer it to the next station and open furnace doors. This process will allow them to admit slabs, sheet, plate, and coil to lower ingots and uncover soaking pits into them.

#### **Foundry Worker**

Foundry worker who assists trades people and semi-skilled worker to cast metal into shapes used as parts for machinery, motor vehicles, railway engines, stove parts and wheels.

#### **Tool and Die Setter**

Tool and die setter who sets up and adjusts machine tools and other production machines such as automatic lathes or multiple operation machines. These machines are then operated by other workers, usually in situations where large-scale production techniques are used.

#### **Kiln Operator**

Kiln operators control the temperature, ventilation and maintenance of high-temperature, high-capacity ovens that bake, harden and dry a variety of mediums, including metal, clay and glass. They work to maximise efficiency while ensuring their safety across a range of industries, including lumber, glass, clay and smelting.

#### **Factory process worker**

Factory Process Worker includes a number of occupations such as Cement and Concrete Plant Worker, Chemical Plant Worker, Clay Processing Factory Worker, Fabric and Textile Factory Worker, Footwear Factory Worker, Glass Processing Worker, Hide and Skin Processing Worker and Recycling Worker.

#### **Food and Drink Worker**

Food and Drink Worker performs routine tasks in manufacturing food and beverages.

#### **Product Assemblers**

Product Assembler puts together components and subassemblies that go into the production of metal products, electrical and electronic equipment, jewellery and precious metal articles, and joinery products. Specialisations: Electrical and Electronic Assembler, Light Coil Winder, Vehicle Assembler.

#### **Product Quality Controller**

Product Quality Controller examines manufactured products and primary produce to ensure conformity to specifications and standards of presentation and quality.

#### **Product Examiner**

Product Examiner examines products to ensure conformity to specifications and standards of presentation and quality. Specialisations: Film Examiner, Metal Products Viewer, Textile Examiner, Tyre Finisher and Examiner, Vehicle Assembly Inspector.

#### **Industrial Spray painter**

Industrial Spray painter operates spray painting equipment to paint and apply other industrial coatings to manufactured items (Vehicle Painters are shown separately). Specialisations: Powder Coater, Rust Proofer.

#### **Plastics and Rubber Production Machine Operator**

Plastics and Rubber Production Machine Operator includes jobs like Thermoforming Machine Operator, Plastic Cable Making Operator, Plastic Compounding and Reclamation Operators, Plastics Fabricators and Welders, Reinforced Plastic and Composite Production Operators, Rubber Production Operators.

#### **Photographic Developer and Printer**

Photographic Developers and Printers edit and adjust digital images, develop photographic film, and print photographic images from digital media, negatives and positives using computer software, fully automatic equipment and by separate processes.

**Specialisations:** Copy Camera Operator, Dark Room Attendant, Digital Photographic Printer, Film Process Operator, Minilab Operator, Photographic Enlarger Operator, Silver Recovery Operator, Slide Developer.

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## ENGINEERING PRODUCTION WORKER

### CAREER PATHWAYS/SPECIALISATIONS CONTINUED

#### Textile Dyeing and Finishing Machine Operator

Textile Dyeing and Finishing Machine Operator operates machines to bleach, dye and finish knitted garments, such as hosiery and woollen garments. Specialisations: Textile Dyer, Textile Finisher.

#### Manufacturing Production Manager

Manufacturing Production Managers manages the manufacturing activities of organisations. Specialisations: Operations Manager (Production), Plant Manager (Manufacturing), Works Manager (Manufacturing).

#### Industrial Designer

Industrial Designer plans, designs, develops and documents industrial, commercial or consumer products for manufacture with particular emphasis on ergonomic (human) factors, marketing considerations and manufacturability, and prepare designs and specifications of products for mass or batch production. Specialisations: Ceramic Designer, Furniture Designer, Glass Designer, Textile Designer.

#### Engineering Technologist

Engineering Technologist analyses and modifies new and existing engineering technologies and apply them in the testing and implementation of engineering projects. Specialisations: Aeronautical Engineering Technologist, Agricultural Engineering Technologist, Biomedical Engineering Technologist, Chemical Engineering Technologist, Industrial Engineering Technologist, Mining Engineering Technologist.

#### Production Engineer

Production engineer designs, develops, monitors, and analyses all facets of a product manufacturing process. They are responsible for the manufacturing of products of defined standards, the enhancement of profit, and the reduction of overall operating costs. They plan, direct and coordinate the design, construction, modification, continued performance and maintenance of equipment and machines in industrial plants, and the management and planning of manufacturing activities. Specialisations: Automation and Control Engineer.

For further information relating to this job search by clicking on the industry logo or by scanning the QR code .

		
<b>Australian Industry Group (AiGroup)</b> 	<b>AAP Manufacturing</b> 	<b>Australian Chamber of Commerce &amp; Industry (ACCI)</b> 
		
<b>Advanced Manufacturing Australia</b> 	<b>National Careers Institute advice</b> 	<b>MAE</b> 

For further information or advise contact  
[mae@agrifooditab.com.au](mailto:mae@agrifooditab.com.au)  
[www.uensw.com.au](http://www.uensw.com.au)  
 Email: [tony@uensw.com.au](mailto:tony@uensw.com.au)



## ENGINEERING PRODUCTION WORKER

### HINTS ON HOW TO APPLY FOR THIS JOB

The 11 steps below outline the process you could follow to assist you to secure an apprenticeship as an engineering production worker

**Step 1.** identify your strengths and weaknesses, especially in maths and literacy as these are essential to being successful in an engineering career. Intermediate maths with a solid pass mark is the minimum. Additionally, subjects like technical drawing and metalwork, woodwork or engineering will give you some basic hand spatial and situational awareness skills that employers look for.

**Step 2.** decide where you want to work; are you willing to relocate to get your dream job? There may be more opportunities in cities than in regional areas.

**Step 3.** do some research, as to who the key employers are in the engineering industry and choose the manufacturing specialisation that you most like then make enquiries to see if they will take on apprentices.

**Step 4.** research information about these employers or companies that you would like to work for; find out what the entry requirements or essential criteria are that must be met; such as do you need to complete an aptitude or other entry test before getting an interview?

**Step 5.** make a shortlist of potential prospective employers to contact. You may also like to chat to your job search agent or search some of the online employment agencies such as SEEK, Jobsearch, Indeed or LinkedIn to find job vacancies for metal fabricators in your region.

**Step 6.** create a quality resume by identifying key elements that should be included therein, and incorporate your academic achievements, experience, interests and passions.

**Step 7.** identify and practice some interview skills with friends, parents or career advisors to learn tips on how best to perform in an interview.

**Step 8.** contact potential employers by writing or directly calling them to demonstrate your interest and communication skills. Prospective employers highly value self-starters and prospective career aspirants with initiative who take such steps to seek for themselves employment as an apprentice.

**Step 9.** talk with the prospective employer about the work they do and if they would be interested in taking you on as an apprentice. If you are still at school, you may be able to take up a school-based apprenticeship. There are opportunities available in some schools that allow you to take on a part-time apprenticeship known as a School-Based Apprenticeship or Traineeship (SBAT). Ask your school if they support this government initiative and ask the employer if they would be interested in such an arrangement. SBATs are a really good way to allow you to finish school and at the same time learn and earn as an apprentice.

**Step 10.** Your employer should contact the Australian Apprenticeship Support Network (AASNs) - <https://www.australianapprenticeships.gov.au/> for further information on how to sign you up.

**Step 11.** sign up to your apprenticeship with your employer (and support of your family if you are under 18 years old) to start "learning and earning" to be an engineering production worker

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Email: [tony@uensw.com.au](mailto:tony@uensw.com.au)



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HAVE YOU CONSIDERED THESE RELATED JOBS?

Click on the links below to access further information -

- ⇒ **Aircraft Maintenance Technician**
- ⇒ **Aircraft Maintenance Engineer**
- ⇒ **Laboratory Technician**
- ⇒ **Mechanical Fitter**
- ⇒ **Metal Fabricator**
- ⇒ **Quality Assurance officer**



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[www.uensw.com.au](http://www.uensw.com.au)  
Email: [tony@uensw.com.au](mailto:tony@uensw.com.au)

