



Apprenticeships

Light Vehicle Motor Mechanic

Alternate titles: Automotive Technician, Car Mechanic, Mechanic, Motor Mechanic, Vehicle Mechanic

Heavy Vehicle Motor Mechanic

Alternative Titles: Agricultural Machinery Mechanic, Diesel Mechanic, Earth Moving Mechanic, Heavy Vehicle Mobile Equipment Mechanic, Heavy Vehicle Motor Technician, Heavy Vehicle Road Transport Mechanic, Mechanic, Motor Mechanic, Truck Mechanic

Vehicle Painter

Alternative Titles: Spray Painter

Bricklayer

Carpenter

Joiner

Electrician

Alternative Titles: Electrotechnology Systems Electrician, Engineering Tradesperson - Electrical/Electronics

Telecommunications Technician

Alternative Titles: Electrotechnology (Data) Communications Technician

Engineering Tradesperson – Mechanical

Alternative Titles: Fitter & Machinist – Metal Machinist - Toolmaker

Engineering Tradesperson – Fabrication

Alternative Titles: Boilermaker (Heavy Fabrication) – Sheetmetal Worker (Light Fabrication) – Welder (First Class)

Horticultural Tradesperson

Alternative Titles: Arborist, Greenkeeper, Tree Surgeon

Butcher

Alternative Titles: Meat Retailer, Meat Processor

Roofer

Alternative Titles: Roof Tiler, Shingler, Slater, Steel Roof Installer, Tiler - Roof

Plumber

Alternative Titles: Roof Plumber, Sprinkler Fitter

Painter and Decorator

Printing Machinist

Plasterer – Fibrous

Alternative Titles: Wall and Ceiling Fixer

Plasterer – Solid

Electrical Linesperson

Alternative Titles: Electrical Powerline Tradesperson, Lineworker

Refrigeration and Air-conditioning Mechanic

Tiler - Wall and Floor

Alternative Titles: Floor Tiler

Chef

Baker

Light Vehicle Motor Mechanic

Alternative Titles: Automotive Technician, Car Mechanic, Mechanic, Motor Mechanic, Vehicle Mechanic

Description

Light vehicle motor mechanics service, repair and overhaul the mechanical parts of motor vehicles such as the engine, the transmission (clutch, gear box and differential), and the suspension systems (springs, steering, brakes, wheels and tyres).

Light vehicle motor mechanics may perform the following tasks:

- discuss problems with car drivers or vehicle operators to discover faults, listen to engines, fit and operate special test equipment and test drive vehicles
- repair or replace worn and faulty parts by removing assemblies such as engines, transmissions, differentials or steering gear; dismantle them and check parts, referring to manuals as necessary
- reassemble, test, clean and adjust repaired or replaced parts or assemblies, use various instruments to make sure they are working properly and put them back into the vehicle
- tune engines using special electronic equipment and make fine adjustments (e.g. to carburettors) for smoother running
- carry out minor body repairs and minor trim repairs
- diagnose, repair and replace engine management/fuel injection components
- use oxy, electric, TIG and MIG welders
- test and repair electrical systems such as lighting, instrumentation, ignition and electronic fuel injection
- inspect vehicles and issue roadworthiness certificates or list the work required before a certificate can be issued.

Light vehicle motor mechanics may specialise as Automotive Air-conditioning Fitters and Brake Mechanics. For more details, see separate entries for these occupations. They may also specialise as breakdown service patrol officers who give emergency mechanical assistance to members of an automobile association.

Light vehicle motor mechanics work mainly in workshops and wear protective clothing. They need to keep up with changes in motor industry technology.

With the changes in automotive technology, there are now more electronic controls and computers fitted to vehicles. As a result, light vehicle motor mechanics are becoming more specialised in their areas of work.

Light vehicle motor mechanics may progress to positions such as service manager, service adviser, technical sales representative, technical officer or diagnostic specialist.

Personal Requirements:

- enjoy practical and manual activities
- able to work with hand tools
- technical aptitude
- problem-solving skills
- physically fit
- normal eyesight and hearing
- driver's licence essential

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Heavy Vehicle Motor Mechanic

Alternative Titles: Agricultural Machinery Mechanic, Diesel Mechanic, Earth Moving Mechanic, Heavy Vehicle Mobile Equipment Mechanic, Heavy Vehicle Motor Technician, Heavy Vehicle Road Transport Mechanic, Mechanic, Motor Mechanic, Truck Mechanic

Description

Heavy vehicle motor mechanics repair, maintain and test heavy vehicles, other engines and related mechanical components.

Heavy vehicle motor mechanics may perform the following tasks:

- diagnose, overhaul, repair, tune, maintain and test diesel and petrol/gas-powered vehicles, including trucks, buses, bulldozers and other earthmoving equipment, tractors, stationary engines (e.g. generators, pumps, compressors and drilling rigs) and agricultural machinery
- detect mechanical and electrical faults by using instruments that check charging and starting circuitry, batteries, ignition and ignition timing, fuel injection systems and speed control, cylinder compression, engine condition, braking efficiency, and wheel balance and alignment
- repair and maintain the hydraulic components of diesel and petrol/gas engines that are used to power attachments such as hoists, booms, scrapers, buckets and augers
- use oxy, electric, TIG and MIG welding, hand fitting or machining processes to replace or repair faulty parts.

Heavy vehicle motor mechanics may have to work in country areas when repairing agricultural, earthmoving and heavy transport machinery.

Personal Requirements:

- enjoy practical and manual activities
- mechanical aptitude
- good at mathematics
- physically fit
- free from allergies to grease, oil or petrol

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Vehicle Painter

Alternative Titles: Spray Painter

Description

Vehicle painters prepare surfaces of vehicles, match and mix colours, and apply primer and finishing coats of paint.

Vehicle painters may perform the following tasks:

- remove rough spots on vehicle panels and sand surfaces by hand or with electric/air sanders
- mix and match paint so that it is similar to the existing paint shade, or select pre-mixed paint
- apply primer and finishing coats using spray guns and rub down surfaces between coats
- touch-up paintwork and apply polish to vehicles
- remove masking papers and wax and polish finished paintwork
- paint signs or artwork on vehicles
- treat vehicles with rust-proofing chemicals.

Vehicle painters wear protective clothing and face masks.

Personal Requirements:

- enjoy practical and manual work
- good hand-eye coordination
- normal colour vision
- no breathing-related problems
- no allergies to thinners or paints
- able to stand or bend for lengthy periods

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Bricklayer

Description

Bricklayers lay bricks, pre-cut stone, concrete and other types of building blocks in mortar to construct and repair walls, foundations, partitions, arches and other structures.

A bricklayer may perform the following tasks:

- work from plans and specifications
- seal foundations with damp-resistant materials
- spread layers of mortar to serve as a base and binder for bricks, remove excess mortar, and check vertical and horizontal alignment
- use various tools and brick-cutting machines to cut and shape bricks
- construct arches and ornamental brickwork
- repair and maintain clay bricks, cement blocks/bricks and related structures
- erect scaffolding (subject to licence requirements in some states).

Small numbers of bricklayers may specialise in refractory work, where they build and line kilns and industrial furnaces; or in the repair of brickwork damaged by salt or damp.

Bricklayers work outdoors and may have to work at heights or in tunnels and shafts. They usually work in teams. Bricklayers may have some contact with the public.

Personal Requirements:

- enjoy practical work
- good hand-eye coordination
- technical aptitude in order to follow plans
- able to work at heights and outdoors
- physically fit and healthy

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Carpenter

Description

Carpenters construct, erect, install, finish and repair wooden and metal structures and fixtures on residential and commercial buildings. They may also work on large concrete, steel and timber structures such as bridges, dams, power stations and civil engineering projects.

A carpenter may perform the following tasks:

- construct formwork into which concrete is poured
- set out an outline of the building on the ground of the site, using string and pegs to allow for excavations
- build floors, wall frameworks (timber or metal), roofs and suspended ceilings, and lay timber floors
- read plans and specifications to determine the materials required, dimensions and installation processes
- install metal and timber windows, sashes and doors
- construct and erect prefabricated units, such as cottages and houses
- cut materials with hand and power tools, and assemble or nail, cut and shape parts
- install door handles, locks, hardware, flooring underlay, insulating material and other fixtures
- maintain and sharpen tools.

With further training and experience, a carpenter could become a clerk of works, building supervisor, building and construction manager, building inspector, technical teacher, estimator, building contract administrator or purchasing officer.

Personal Requirements:

- enjoy practical work
- able to work with your hands
- a sense of balance and ability to work at heights
- good at mathematics
- good health and eyesight
- able to work as part of a team

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Joiner

Description

Joiners cut, shape and fit timber parts in workshops to form structures and fixtures, ready for installation.

Joiners may perform the following tasks:

- work out job requirements from drawings, templates and written instructions
- set up jigs, select timber, and cut to size and shape using templates
- cut joints, using wood-cutting machines or hand-powered tools
- assemble prepared wood to form structures and fittings
- work with plastic laminates, perspex or metals
- maintain and sharpen tools.

With experience and sometimes further training, it is possible to become a technical teacher, estimator or purchasing officer.

Personal Requirements:

- enjoy practical and manual work
- enjoy working with wood
- good hand-eye coordination
- a sense of balance
- some mathematics ability
- good health and eyesight
- able to work as part of a team

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Electrician

Alternative Titles: Electrotechnology Systems Electrician, Engineering Tradesperson - Electrical/Electronics

Description

Electricians install, maintain, repair, test and commission electrical and electronic equipment and systems for industrial, commercial and domestic purposes. Electricians may also work on electrical transmission and distribution equipment.

Electricians may perform the following tasks:

- read electrical, architectural and mechanical diagrams, drawings or specifications to determine job requirements
- plan the layout of wiring systems
- test for, locate and repair electrical malfunctions
- install electrical and electronic control systems and insulated cables
- install electrical equipment such as storage heaters, water heaters, electrical signs, switchboards and motors
- assemble and fabricate electrical and electronic components and appliances
- connect electrical equipment to power supplies
- connect switches, outlets and other fittings
- connect circuit breakers
- maintain automated production processes.

With experience and possibly some business training, electricians may specialise as electrical contractors, who order materials, organise staff to meet customer needs and carry out other tasks associated with running a business.

Electricians may work in workshops, in private homes or in manufacturers' factories. They may have a considerable amount of contact with the public. They may work in confined spaces and have to stand for long periods. They may also be required to work at heights on masts, towers and roofs.

Electricians must be aware of safety regulations and must often wear and use supplied protective equipment to minimise risks.

Personal Requirements:

- enjoy mathematical and technical activities
- good hand-eye coordination
- good eyesight and normal colour vision
- diagnostic ability
- aptitude for mechanics and electronics
- able to do precise and detailed work
- able to work as part of a team and independently
- physically fit
- good communication skills

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Telecommunications Technician

Alternative Titles: Electrotechnology (Data) Communications Technician **Description**

Telecommunications technicians install, operate, maintain and repair telecommunications and broadcasting networks and equipment.

Telecommunications technicians may perform the following tasks:

- install network equipment and set up new telecommunications services
- make sure that equipment and circuit installations are of good quality
- place or terminate cables, and install jumpers, wires and strappings
- undertake proof tests such as wire testing, circuit commissioning and power tests
- assemble, erect, position and label items of equipment
- provide cost estimates to customers for installation of equipment
- install and maintain telephones and other business communication systems at customers' premises
- install, test and maintain all types of telecommunications, switching and transmission equipment, including telephone exchanges and the public telephone network
- carry out modifications to items of equipment
- analyse system faults with a high degree of diagnostic skill (to circuit board level)
- maintain and adhere to operational procedures and complete appropriate documentation
- take responsibility for tools and plant and test equipment
- develop and maintain good relations with internal and external customers
- operate call tracing facilities when necessary.

Telecommunications technicians may specialise in the areas of cabling, Customer Access Network (CAN), or Customer Premises Equipment (CPE). Telecommunications technicians work indoors and outdoors, and have considerable contact with customers in business or in private homes. They may work in telephone exchanges, computer and equipment rooms, and installation or service depots for sustained periods of time. They may also be required to work in trenches and underground tunnels or at heights on towers and telegraph poles.

Personal Requirements:

- enjoy technical and engineering activities
- able to perform routine repetitive tasks as well as non-routine or highly analytical tasks
- able to show initiative
- good with hands
- normal colour vision

- able to work at heights and in confined spaces
- good customer service and public contact skills
- able to work as part of a team
- able to work independently
- prepared to undertake continuous training and development

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Engineering Tradesperson - Mechanical

Alternative Titles: Fitter & Machinist

Description

Mechanical engineering tradespersons carry out a range of mechanical work on machines, sub-assemblies and manufactured parts using a range of processes, tools and machines.

A mechanical engineering tradesperson may perform the following tasks:

- examine detailed drawings or specifications to find out job, material and equipment requirements
- set up and adjust metalworking machines and equipment
- operate machines to produce parts or tools by turning, boring, milling, planing, shaping, slotting, grinding or drilling metal stock or components
- fit and assemble metal parts, tools or sub-assemblies, including welding or brazing parts
- cut, thread, bend and install hydraulic and pneumatic pipes and lines
- dismantle faulty tools and assemblies and repair or replace defective parts
- set up and/or operate hand and machine tools, welding equipment or computer numerically controlled (CNC) machines
- check accuracy and quality of finished parts, tools or sub-assemblies.

With experience and further study, competent tradespeople can upgrade their qualifications to the technician, associate, technologist or engineer level.

Recent changes in the industry have resulted in a number of trade jobs being merged into a single broad occupation. The new training structure provides a mix of skills across a number of traditional occupations as well as allowing the Australian Apprentice to develop specific skills.

Mechanical engineering tradespersons may specialise as a:

Fitter who fits and assembles parts and sub-assemblies made from metal and other materials to make production machinery and other equipment.

The work of fitters can be divided into three main areas: marking out work to be done, assembling and installing machines, and maintaining and repairing them. They may be known as bench fitters, diesel fitter mechanics, fitter machinists, fitter welders, fluid power fitters or maintenance fitters.

Fitters may shrink-fit parts during assembly, using oxy-acetylene torches and presses, dry ice and carbon dioxide freezing; manufacture, repair and fault-find hydraulic and pneumatic equipment; inspect machinery and make repairs; and erect machinery and equipment on site.

Gunsmith who alters, services and repairs rifles, revolvers and other firearms.

Gunsmiths need good background training in fitting, turning and welding. Knowledge of woodwork and different types of steel is useful for producing, fitting and polishing various parts.

Gunsmiths identify the problem in a faulty firearm by dismantling and examining its parts such as barrels, triggers and bolts. Then they repair the fault with hand or machine tools, replacing worn and broken parts with new ones, realigning gun sights, replacing wooden rifle stocks or adjusting parts of the firing mechanisms. They may also test and operate firearms to ensure the parts work smoothly; produce, fit and assemble parts for custom-built or other specialised small guns; modify guns to customer specifications (such as rebuilding to improve shooting accuracy); and make ammunition or refill used cartridges using special tools and machines.

The work of a gunsmith can be very noisy and sometimes hazardous.

Locksmith who tests security requirements and installs and maintains locks and related security equipment.

Locksmiths inspect sites and consult clients to assess risks; design or recommend appropriate systems such as safes, strongrooms, master key systems, alarms or door and window locks; install, replace and maintain locking systems, alarms and access control systems; and modify locks by changing tumblers in locking mechanisms or by changing locks.

Locksmiths can specialise in lock manipulation, safe work, key manufacture and identification, door closure work or master key systems.

Locksmiths work with minimal supervision and may spend some time travelling from job to job. They may work irregular hours.

Metal Machinist who sets up and operates tools to cut, shape and form metal stock and castings to exact sizes, using detailed drawings, CAD systems and specifications. They machine metal components from single to complex form. Metal machinists make machines and equipment that are used to produce goods such as food, clothes, steel products and cars.

Metal machinists can specialise in many types of machining work such as turning, drilling, boring, milling, shaping or grinding. They may choose to specialise as aircraft machinists, automotive machinists, engine reconditioners, plant machinists (dealing with heavy equipment and machinery), machine setters (metal), turners, milling machinists, radial drillers or vertical borers.

Machinists increasingly specialise in the use of computer-controlled machines which accurately cut or electrically erode shapes.

Metal machinists work in machine shops or workshops with other metal workers such as fitters, process workers and markers-off.

Toolmaker who makes and repairs moulds, dies, jigs, fixtures, press tools and other special equipment, to produce parts for industrial machinery and most other manufactured articles. They may make precision machinery for machine tools and other manufacturing machinery.

Toolmakers work out sizes and allowances for error based on their knowledge of how materials such as metals, metal alloys and plastics will

behave when they are being cut. (Frequently, their work must be accurate to less than 0.01 mm.) They position, measure and mark out metal stock or castings, checking dimensions and alignments with gauges, micrometers and other measuring devices; machine awkward or complex internal shapes using advanced machine tools such as electrical discharge machines which use a spark erosion process; and design tools and precision equipment. Toolmakers can specialise as die casters, die sinkers, jigmakers (metal), plastic mould makers and press tool makers.

Mechanical engineering tradespersons usually work in workshops or production areas that can be noisy, hot and dusty. They may spend most of their day standing and often need to bend, crouch or climb.

Mechanical engineering tradespersons must be aware of safety regulations and wear protective equipment (for example, ear muffs to minimise noise levels in the workplace).

Personal Requirements:

- enjoy technical work
- physically fit
- good hand-eye coordination
- able to work as part of a team
- able to work independently
- practical ability
- attention to detail
- normal hearing
- no skin allergies

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Engineering Tradesperson – Fabrication

Alternative Titles: Boilermaker

Description

Fabrication engineering tradespersons cut, shape, join and finish metal to make, maintain or repair metal products and structures.

They may produce moulds or patterns for metal castings, apply coatings and work with a variety of materials.

A fabrication engineering tradesperson may perform the following tasks:

- examine detailed drawings or specifications to find out job, material and equipment requirements
- cut, roll, shape, bend, mould, spin, heat or hammer metal products to fabricate parts or sub-assemblies
- heat treat metal parts and components
- set up and/or operate hand and machine tools, welding equipment or computer numerically controlled (CNC) machines
- assemble parts and structures by lining up and joining them by welding, bolting or riveting
- finish products by cleaning, polishing, filing or bathing them in acid solutions, or by applying protective or decorative coatings.

With experience and further study, competent tradespeople can upgrade their qualifications to technician, associate, technologist or engineer level.

Recent changes in the industry are leading to a number of trade jobs being merged into a single broad occupation. The new training structure allows the Australian Apprentice to develop a mix of skills from the traditional trades or occupations.

Fabrication engineering tradespersons may specialise as a:

Blacksmith who shapes bars, rods and blocks of metal using hand or power tools to produce or repair metal articles. They may adjust metal and heat to the correct temperature in a forge or electric furnace; hammer, punch or cut metal to size and shape on an anvil or other surface; check part sizes using measuring instruments; and use a variety of welding methods including electric arc, MIG and TIG welding or oxy-acetylene welding to join parts. The finished article is then hardened by heating and cooling in an oil or water bath, or by cooling gradually in air.

Blacksmiths use anvils or machines to make and repair agricultural equipment, mining and quarrying machinery, or ornamental steelwork such as gates and fences.

Blacksmiths can specialise in forge-smithing, hammer-smithing or tool-smithing.

Boilermaker (Heavy Fabrication) who cuts, shapes, assembles and joins heavy gauge metal parts to produce or repair containers that have to withstand pressure, such as ships, boilers and storage tanks. They cut marked metal sections using hand tools, flame cutting torches, or metalworking machines such as guillotines and shearing machines. Then

they shape and bend sections and pipes by forging or using hand and machine tools such as vices, hydraulic presses and rolling machines. Parts and structures are assembled by welding, bolting or riveting, or in some cases using large equipment such as cranes.

Boilermakers trained in structural fabrication may be involved in fitting, assembling and joining aluminium and steel in the construction or repair of towers, bridges, structural supports, girders and ships.

Electroplater who coats metal parts and articles with a layer of decorative or protective metal such as copper, silver, nickel or chromium. They work for electroplating firms, car makers, anodisers, metal polishers and printed circuit board manufacturers.

Electroplaters also prepare and maintain plating solutions by cleaning, preparing and de-scaling surfaces of parts or articles with cleaning solutions such as acids or alkalis, or by using blasting cabinets. They mask areas not to be plated with waxes, lacquers or resistant adhesive tapes and place parts, either separately or in batches, in fixtures, jigs or racks, and dip them in plating solutions or use selective brush plating. They set and adjust controls to pass the required electric current between anodes and cathodes, depending on the thickness of plating required.

Electroplaters may specialise in one of the electroplating operations, such as anodising, barrel plating, metal preparation or powder coating.

Engineering Patternmaker who constructs full-size engineering models (called patterns) out of timber. These are used in manufacturing to produce metal castings, copy models, vacuum form tooling, and tooling for the automotive, aircraft and fibreglass industries. Patternmakers also produce visual models, experimental models and models for the manufacture of prototype developmental products.

Although they mainly work in wood, patternmakers also manufacture patterns from a range of metals, cast and fibreglass reinforced epoxy resins, and rigid foams. They mark out and cut sections to profiles with planers, bandsaws, disc or bobbin sanders, lathes and routers, and fit and glue sections together in a range of lamination procedures. They may also produce patterns by programming a computerised machine.

Metal casting patternmakers usually work closely with other tradespeople and apprentices.

Moulder/Coremaker who makes sand moulds from which many kinds of metal objects are cast. They may make moulds for goods ranging from truck wheels, crankshafts and bulldozer blades, to door handles and water taps. They may make moulds for the structural frames of equipment used in mining, quarrying and forestry.

The moulding process is commonly automated or semi-automated. Where it is not, the process is known as job moulding. Moulders/Coremakers may talk to patternmakers and metallurgists with regard to casting designs and can specialise as Coremakers or metal Moulders.

Moulders/coremakers may advance to a number of positions including supervisor, foreperson, foundry engineer and foundry technician metallurgist.

Sheetmetal Worker (Light Fabrication) who manufactures a variety of products and components using thin sheetmetal materials. A sheetmetal worker uses hand tools, power tools and other machines to mark out, cut, shape and join a variety of sheetmetal materials. They work with galvanised steel, mild steel, stainless steel, aluminium, copper and brass.

Sheetmetal workers shape and form the cut material into products by operating sheetmetal shaping and forming machines such as brake presses, and folding, bending and rolling machines. Parts are joined by riveting, bolting, welding, brazing or soldering, or by drilling holes in products and in surfaces on which items are to be mounted.

Some sheetmetal workers produce aircraft sheetmetal parts which requires advanced drawing and calculating skills in fine tolerance work. Others set up and program computer numerically controlled (CNC) machines.

Welder - First Class who constructs or repairs metal products by joining parts either manually (using a variety of welding methods including electric arc, MIG and TIG welding or oxy-acetylene welding) or by machine. These parts are used to complete structures and equipment (e.g. ships, bridges, pipelines, vehicles and domestic appliances).

First class welders may specialise as special class welders, welding a range of metals (e.g. mild steel, stainless steel, cast iron, aluminium, copper, brass, diecast metal and magnesium).

After further assessment, first class welders may specialise as pressure welders, assembling, welding and repairing pressure vessels such as storage tanks, pipelines and gas cylinders to special test standards.

Fabrication engineering tradespersons work in workshops or production areas that can be noisy, hot and dusty. They usually spend most of their day standing and often need to bend, crouch or climb. Some may be required to work in confined spaces or at heights, and many work shifts. They may work in a team or alone. Workshops are generally spacious, ventilated and well lit.

Fabrication engineering tradespersons must be aware of safety regulations and must wear protective equipment to minimise heat and noise levels, and to guard against corrosive chemicals.

Personal Requirements:

- enjoy technical activities
- interested in computer programmable machinery
- physically fit
- strength to handle materials, tools and machines
- good hand-eye coordination
- able to work in a team
- able to work independently
- patience

- accuracy
- no skin or breathing allergies
- safety conscious

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Horticultural Tradesperson

Alternative Titles: Arborist, Greenkeeper, Tree Surgeon

Description

Horticultural tradespersons maintain plants and planted areas, construct horticultural features, and apply treatments to improve plant growth and control pests.

A horticultural tradesperson may perform the following tasks:

- identify and correct soil deficiencies
- identify and treat pests and diseases on plants
- prepare fields, garden beds or lawn areas by cultivating soil and adding fertilisers and compost
- use growth regulators and other chemicals
- read landscape plans and construct rockeries, paths or ponds
- plant and transplant flowers, shrubs, trees and lawns
- maintain gardens by fertilising, trimming and making sure that plants are receiving adequate water
- prune trees and hedges to promote the health and positive appearance of plants
- thin out, hoe, irrigate and fertilise crops
- maintain lawn and grass areas using machinery, fertilisers and chemicals
- service equipment such as tools, lawn mowers and heavy machinery
- operate and install irrigation and drainage systems
- plan and supervise other workers' daily activities
- develop long-term plans, set budgets and manage the financial aspects of the organisation or business.

Horticultural tradespersons usually work outdoors and in all kinds of weather. Some of the work is physically demanding as it involves bending, lifting and handling machinery such as tractors, rollers and edging machines. Protective clothing must be used when handling fertilisers and pesticides, and to prevent injury while using machinery.

Horticultural tradespersons may specialise as an:

Arboriculture Worker who cares for and maintains trees in urban environments. The work may include tree climbing using ropes and harness, or operating from elevated platforms. Machinery used may include chainsaws, chippers and stump grinders. At ground level, much of the work involves cleaning up and chipping fallen branches and maintaining a safe environment. Senior workers, sometimes called tree surgeons, provide specialist advice on tree evaluation, assessment and treatment.

Floriculturist who produces fresh and dried flowers and foliage for wholesale flower markets, florists and retail outlets, and increasingly for overseas export. The range of different flowers and foliage is huge and could include roses, carnations, orchids, native flowers, bulb and annual flowers,

and tropical flowers. Some flower farms also grow flowers in open fields for their essential oils.

Gardener who plants and cares for trees, lawns, shrubs and flower beds in areas around public and private institutions, city squares, parks and gardens, playing fields, golf courses and bowling greens, as well as private homes.

Greenkeeper also known as groundsperson or turf keeper. They prepare, establish and manage fine turf, grassed areas and synthetic surfaces used for sport. Greenkeepers may look after golf courses, bowling greens, tennis courts, cricket wickets, ovals, race courses, sports playing fields, recreational parks and grounds of schools and colleges. They may also do domestic and commercial mowing and lawn maintenance operations, and work on commercial turf farms.

Landscape Gardener who designs and constructs garden landscapes or renovates existing gardens. They use a wide range of gardening skills to create a landscape that is pleasing to look at as well as functional. Sites include private gardens, public parks and reserves, indoor facilities and newly developed housing estates and industrial complexes. They may also construct fences, trellises, pergolas, ponds, ferneries, barbecues, play structures and garden furniture.

Nursery Worker who grows and sells plants. Some work with a broad range of plants, while others specialise in areas such as native plants, flower seedlings and bulbs, advanced trees, ferns or flowers. Retail nurseries sell to the general public and offer advice on plants and products. Wholesale nurseries propagate and supply plants to supermarkets, retail nurseries, garden centres, indoor plant hire and maintenance companies, and to landscapers.

Personal Requirements:

- enjoy practical and mechanical activities
- able to undertake manual and heavy work
- able to work safely with chemicals and machinery
- able to work for long hours
- able to work outdoors in all sorts of weather conditions

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Butcher

Alternative Titles: Meat Retailer, Meat Processor

Description

Butchers select, cut, trim and prepare meat for sale or supply.

Butchers may perform the following tasks:

- cut, trim and shape standard cuts of meat to size
- process carcasses into primary and secondary cuts
- pack and store products for display and sale
- order supplies from wholesalers using AUS-MEAT Language, as well as weigh and check stock on receipt
- assemble and operate mincers, grinders, mixers, patty-forming or sausage-forming machines, and bandsaws.
- use correct detergents and sanitisers to prevent food poisoning and contamination of premises and equipment
- assist clients (including hotels and restaurants) in menu planning, estimating food portions and production costs
- collect payment for sales
- prepare marinated meats, value-added and ready-to-cook dishes
- advise customers about alternative cuts, cooking methods, storage requirements and nutritional aspects of meat.

Butchers work with a variety of knives, hand tools, power equipment (including mincers, mixers and band saws) and computer-operated machinery.

Butchers work in shops and boning/slicing rooms. They usually have early morning starts and their work involves a lot of contact with people such as customers and workmates. Butchers are exposed to animal blood.

Personal Requirements:

- enjoy practical and manual work
- physically fit
- good hand-eye coordination
- good health
- good interpersonal skills

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Roofer

Alternative Titles: Roof Tiler, Shingler, Slater, Steel Roof Installer, Tiler - Roof

Description

Roofers cover houses and other buildings with roof tiles, slates, shingles or steel sheeting to form waterproof surfaces.

A roofer may perform the following tasks:

- look at drawings, specifications and work sites to determine materials required
- assess risks
- erect ladders and tile elevators
- erect and dismantle restricted height scaffolding
- place roofing underlays over eaves and secure by nailing or stapling to roofs
- correctly space and nail wooden strips called battens across the roof rafters on which the tiles or other roofing material will be placed
- lay aluminium, steel or clay tiles, stone slates, wooden shingles or steel sheeting
- install metal gutters, downpipes and other rainwater products
- overlap successive layers of tiles and measure and cut roofing material to fit around vents, chimney edges, and the hips and valleys of the roof
- fix roof flashings (weatherproof covering)
- fix the ridge caps and gable ends with cement mortar or tech screws
- handle waterproofing materials, tools and equipment
- apply protective paint coating systems
- clear the roof of debris when the job is finished.

Roofers may specialise in tiling or installing new roofs, repairing existing roofs or removing old roofs and replacing them.

Roofers' work involves a lot of bending, climbing and lifting. They work outdoors, at heights, in all weather conditions. Particular care has to be taken in wet weather.

Personal Requirements:

- enjoy practical and manual work
- good sense of balance
- good hand-eye coordination
- willing to work at heights and outdoors

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Plumber

Alternative Titles: Roof Plumber, Sprinkler Fitter

Description

Plumbers lay out, test and maintain pipes, fixtures, metal roofing, fittings, gas meters and regulators.

A plumber may perform the following tasks:

- prepare and/or study plans and specifications to work out the layout of plumbing systems and materials needed
- find and mark positions for connections, then cut holes through walls and floors to accommodate pipes, measure pipes and mark cutting or bending lines
- cut, thread and bend pipes, assemble and install piping, valves and fittings, join pipe sections and secure pipes
- test lines as required by local plumbing regulations
- install equipment such as boilers, pumps, heating and cooling systems, gas appliances, water tanks, water heaters, solar water heating systems, fixtures such as toilets, wash basins and industrial processing units
- maintain and repair plumbing systems.

Subject to licensing restrictions, plumbers may perform all of the tasks listed above, or specialise as a:

Drainer who installs, maintains and repairs pipes in storm water or sewerage systems and drains, and installs septic tanks, holding wells, sillage pits and absorption tracks.

Gasfitter who installs, maintains, tests and repairs gas lines, meters, regulators, hot water systems and appliances.

Heating and Ventilation Plumber who installs and services heating and cooling systems.

Irrigation Installer who plans, designs and installs large watering systems for such environments as golf courses and parks.

Roofing Plumber who installs and fixes metal roofs, flashings, gutters, downpipes, rainwater products and other accessories on residential, industrial and commercial buildings. The work conducted by roofing plumbers includes working outdoors, in a team environment and safely at heights.

Sprinkler Fitter who installs and maintains fire protection systems.

Personal Requirements:

- enjoy practical work
- good hand-eye coordination
- able to work independently
- able to work at heights and in various weather conditions
- physically fit and good mobility

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Painter and Decorator

Description

Painters and decorators apply paint, varnish, wallpaper and other finishes to protect, maintain and decorate interior and exterior surfaces of domestic, commercial and industrial buildings and other structures.

A painter and decorator may perform the following tasks:

- work out the quantity of materials needed for the job by taking surface measurements or by looking at job specifications or drawings
- erect scaffolding, cradles and ladders and place dropsheets to protect areas from dripping paint
- remove old paint or paper using sanding, scraping, blowtorches, liquid paint removers and steam strippers as appropriate
- prepare surfaces by fixing woodwork, filling or sealing holes, cracks and joins and washing them down to remove dust and grease
- select and prepare paints to match colours by the addition of tints
- brush, roll or spray the paints, stains, varnishes and other finishes
- when wallpapering, set out the area according to the pattern match and starting point in the room, cut the paper to the appropriate length, apply paste to the back of each strip and hang the paper on the wall, smoothing out any wrinkles or bubbles
- spray paint surfaces using a spray gun or specialised equipment
- apply decorative paint finishes such as stencils, colour glaze, graining, marbling and lettering
- wash equipment and clean work areas.

Painters and decorators may concentrate on a specific area of work, such as the internal or external painting of domestic homes, commercial buildings or industrial structures and equipment.

Painters and decorators may work alone or as members of a team. They often work from ladders and scaffolding and do a lot of bending and stretching.

Personal Requirements:

- physically fit
- able to work at heights
- enjoy practical work
- good hand-eye coordination
- normal colour vision
- good sense of balance
- able to work independently
- able to work as part of a team

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Printing Machinist

Description

Printing machinists set up and operate letterpress, lithographic, flexographic and gravure printing presses. They work on a range of printed products, including packaging, stationery, greeting cards, books and newspapers, depending on the printing method used.

Letterpress printing is the oldest form of printing, in which ink is applied to a raised surface and transferred directly to paper through pressure.

Offset lithography is a process of printing from a plate with a flat surface (planographic).

Flexographic printing uses a raised surface on a flexible rubber or photopolymer plate.

Gravure printing uses a recessed cylinder to remove excess ink from the paper's surface, producing an engraved design effect (intaglio).

Printing machinists may perform the following tasks:

- prepare image materials such as relief, planographic (flat) and intaglio printing plates
- fit printing plates or cylinders on presses, mix the inks that go on them and adjust the colour flow to the image
- adjust the paper feeding devices which separate and feed sheets through the machine
- carry out minor repairs and routine maintenance
- set up and operate 'in-line' finishing functions.

With experience and sometimes further training, it is possible to progress to supervisory and management positions.

Printing machinists work in both small businesses and large manufacturing companies, and with single and multi-colour printing presses.

Personal Requirements:

- enjoy practical and manual work
- good eyesight and normal colour vision
- good hand-eye coordination
- able to carry out detailed work
- mechanical aptitude

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Plasterer – Fibrous

Alternative Titles: Wall and Ceiling Fixer

Description

Fibrous plasterers make, apply and fix the internal linings of commercial and domestic buildings. They may specialise as sheet hands, modellers hands, or fixers.

A fibrous plasterer may perform the following tasks:

- measure room walls, work out plasterboard layout and install insulation and moisture barriers
- measure and mark cutting lines on plasterboard
- cut plasterboard, lift and position panels, and nail, screw or glue them to walls, ceilings or wooden strips called battens
- prepare corner beading panel mouldings, ceiling centres and other plaster fittings
- cover joins and nail holes with wet plaster or sealing compounds and smooth them using wet brushes and sand paper
- install fire-rated wall barriers
- spray fibrous materials over surfaces to be covered
- install acoustic walls and treatments
- make fibrous plaster moulds in factories.

Fibrous plasterers usually work in dusty conditions. They may have contact with the public.

Fibrous plasterers may specialise as:

- fixers who install plasterboard sheets and cornices in buildings
- sheet hands who make fibrous enrichments
- modellers hands who make plaster moulds.

Personal Requirements:

- enjoy practical work
- good hand-eye coordination
- able to work at heights
- able to work neatly and accurately
- able to read and interpret plans

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Plasterer – Solid

Description

Solid plasterers apply decorative and protective coverings of plaster, cement or similar materials to the interiors and exteriors of buildings.

A solid plasterer may perform the following tasks:

- level and straighten corners, angles, and wall and ceiling surfaces
- clean and prepare surfaces by stapling wire-mesh frames to them, or by roughening them with mechanical hammers
- mix and apply coats of plaster, cement, render or similar materials to walls and ceilings, levelling and smoothing them by using trowels
- apply finishing coats of plaster to give a smooth finish or decorative texture
- fix precast cornices and panel mouldings, ceiling centres and other plaster fittings
- render exterior walls and moulds
- finish underside of concrete floors with a mixture of cement and granite chips or blue metal
- erect scaffolding (subject to licence requirements in some states or territories) and trestles.

Solid plasterers work alone or in teams of two or three, indoors and outdoors.

Personal Requirements:

- enjoy practical work
- good hand-eye coordination
- able to learn to work from plans
- willing to work at heights on scaffolding or ladders
- good health and stamina, and free from allergies to materials used

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Electrical Linesperson

Alternative Titles: Electrical Powerline Tradesperson, Lineworker

Description

Electrical linespersons install, repair and maintain overhead lines and cables carrying electricity to domestic, commercial and industrial users and electric train services.

Electrical linespersons may perform the following tasks:

- patrol electrical lines and inspect poles and towers
- install earth stakes, power poles, towers and guy wires, using power tools and other equipment
- install and maintain aerial equipment such as conductors, cross arms, insulators, street lights, customer supply points, transformers, pole-mounted circuit breakers and switches
- trim tree branches clear of power lines using machinery
- cover live wire with insulating materials
- adjust the tension of cables and join overhead conductors using compression and wrap-on fittings
- perform emergency repairs such as isolating live wires
- make sure that conductors are correctly connected between the mains and customers' premises when performing installations or repairs
- monitor safe working conditions, and practise resuscitation, rescue and first aid procedures.

As electrical linespersons work with high and low voltages at considerable heights, they are given extensive training in safety procedures. They may be called out during emergencies at any time of the day or night and in all weather conditions.

Personal Requirements:

- enjoy outdoor work
- enjoy practical work
- willing and able to work at heights
- awareness of safety
- normal colour vision
- good with hands
- able to work well as part of a team

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Refrigeration and Air-conditioning Mechanic

Alternative Titles: Refrigeration and Air-conditioning Electrotechnologist **Description**

Refrigeration and air-conditioning mechanics assemble, install, service and repair industrial, commercial and domestic refrigeration and air-conditioning systems in homes, shops, factories, office buildings and hospitals.

A refrigeration and air-conditioning mechanic may perform the following tasks:

- follow plans and specifications to install units part by part and bolt them down
- drill holes, install mounting brackets and cut, bend and thread piping
- install parts such as compressors, motors, condensers, evaporators, air filters, switches and gauges, and copper lines for steam, gas, refrigerant, compressed air, fuel, oil and chilled water
- attach piping to refrigeration systems
- work with electricians, pipe fitters and carpenters to install ducting for air-conditioning
- check that the parts are lined up and fit properly
- fill systems with gas or fluid and test for leaks
- remove test gas or fluid using vacuum pumps and fill these with refrigerant according to set regulations
- test the unit and make adjustments to make sure that it works correctly
- service faulty industrial and household refrigerators and air-conditioning units by repairing or replacing faulty parts.

When carrying out installation work, refrigeration and air-conditioning mechanics may work on large commercial and industrial units that have to be installed either part by part, or pre-assembled units that simply require installation. Domestic units come already assembled and usually do not require a tradesperson's services for installation. Refrigeration and air-conditioning mechanics may need to be skilled in pipefitting, welding and electrical wiring.

Refrigeration and air-conditioning mechanics may have to work extended hours to fix breakdowns and carry out emergency repairs.

Personal Requirements:

- able to work with hand and power tools
- enjoy and have aptitude for technical work
- able to work patiently, systematically and thoroughly
- normal colour vision
- able to work as part of a team
- good communication skills

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Tiler - Wall and Floor

Alternative Titles: Floor Tiler

Description

Wall and floor tilers lay ceramic, clay, slate, marble, glass and other types of tiles on external and internal walls and floors to provide protective and decorative finishes.

A wall and floor tiler may perform the following tasks:

- look at plans, measure and mark surfaces to be covered and lay out work
- prepare wall and floor surfaces by removing old tiles, grout, cement and adhesive
- fill all holes and cracks, and then clean surfaces
- attach tiles to surfaces, using correct adhesive, making sure that patterned tiles match
- use tile-cutting tools to cut and shape tiles needed for edges, corners, or around obstacles such as fittings and pipes
- space and even the tiles by using tools such as spirit levels, squares and plumb-lines
- prepare and apply grout, remove excess grout, clean and polish tiles
- lay floors of cement, granolithic, terrazzo or similar composition
- apply waterproofing systems.

Wall and floor tilers sometimes work in confined areas where bending and kneeling are required. They lift and carry cement and stacks of tiles. They sometimes work at heights using ladders or scaffolding. Most tilers work in small teams and move frequently from one job location to another.

Personal Requirements:

- enjoy practical and manual work
- able to work at heights
- good hand-eye coordination
- able to make simple calculations
- able to work independently
- able to work neatly and accurately

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Chef

Alternative Titles: Second Chef

Description

Chefs plan and organise the preparation and cooking of food in a number of settings.

A chef may perform the following tasks:

- plan menus and work out food and labour costs together with the head chef
- plan staff rosters and supervise the activities of cooks and assistants
- discuss food preparation issues with managers, dietitians and other staff members
- order food, kitchen supplies and equipment
- demonstrate techniques to cooks and advise on cooking procedures
- prepare and cook food
- divide food into portions and add gravies, sauces and garnishes
- explain and enforce hygiene regulations
- select and train staff
- freeze and preserve foods.

In larger establishments, the chef de cuisine or head chef generally does more supervision than cooking. Senior chefs have to attend staff meetings, where they discuss problems related to their areas, and receive or issue instructions to other managerial staff. In small restaurants, the head chef may prepare food, assisted by other cooks or apprentices. As well as expert cooking knowledge, chefs involved in supervision need a general knowledge of the skills and activities of all their workers.

The range of duties carried out by chefs will vary depending on where they work. Chefs may be required to work shifts, including weekends and public holidays. The work may be stressful, especially at peak hours of the day.

Chefs may specialise as a:

Chef de Cuisine who is the head or first chef.

Chef de Partie who may specialise as a larder cook, butcher, pastry cook, sauce cook, roast cook, relief cook, side-dish cook, breakfast cook, canteen cook or fish cook.

Commis Chef who is a cook who has just completed an apprenticeship or has an equivalent qualification.

Demi Chef who specialises in a particular type of cooking as part of the kitchen brigade.

Sous Chef/Second Chef who is the second-in-charge in the kitchen.

Personal Requirements:

- high level of personal cleanliness
- enjoy cooking
- able to organise efficient work schedules
- good communication skills
- punctuality

- flexibility to perform shift work on a 24-hour rotating roster as required
- able to work under pressure and stay calm in difficult situations

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Baker

Description

Bakers make bread, cakes and pastries, using flour and other ingredients.

Bakers may perform the following tasks:

- check that equipment meets health and safety regulations
- check the quality of raw materials and weigh ingredients
- mix dough by hand or machine, then place in tins or trays
- load tins or trays into ovens, keeping an eye on the oven temperatures and the appearance of the bread (or the cake or pastry)

- unload ovens when the bread is baked, take bread out of trays and put aside to cool
- glaze or decorate cakes and pastries with icing or cream
- order baking supplies from wholesalers
- operate slicing and wrapping machines
- serve customers.

The increased use of machinery has reduced heavy work for bakers. However, they still have to stand a lot of the time. Most bakers work full time, and they often work late at night or early in the morning. They may also work on weekends and public holidays.

Personal Requirements:

- enjoy practical work
- good hand-eye coordination
- good health, with no skin allergies or chest complaints
- physically fit
- neat and clean

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