

RAC MECHANIC/TECHNICIAN

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 or a School Based Apprenticeship / Traineeship, Curriculum Framework Course or a Pre-Apprenticeship Course.

Entry level qualification:

[UEE20120 - Certificate II in Split Air Conditioning and Heat Pump Systems.](#)

This qualification covers competencies to install, commission and decommission single head, split air conditioning and heat pumps systems to a prescribed routine where the maximum plant capacity for each system does not exceed 18-kilowatt (kW) refrigeration.

This includes wall hung, floor and ceiling suspended, cassette and ducted fan coil split systems and water heating heat pump systems. This qualification excludes competencies required for service, repair, maintenance, diagnostic/fault finding and electrical work or the safe and proper installation of commercial refrigeration, air conditioning and heat pump plant and equipment.

At the completion of this qualification individuals may like to complete further training to become a specialist in the following areas –

[UEE32220 - Certificate III in Air Conditioning and Refrigeration](#)

This qualification covers competencies to select components, install, set up, test, fault find, repair and maintain refrigeration systems and equipment that apply to food storage and preservation, and air conditioning and air distribution equipment in buildings and premises. It includes regulatory requirements for purchasing and handling refrigerants.

Competency development activities in this qualification are subject to regulations directly related to licencing. A relevant contract of training through an apprenticeship or relevant employment may be required to enable the application of the required knowledge and skills to on the job work activities and environments. A Refrigeration and Air Conditioning Occupational Licence and restricted licence (added specific licence in NSW) is required.

[MEM31319 - Certificate III in Refrigeration and Air Conditioning](#)

This qualification defines the skills and knowledge required of a heating, ventilation, air conditioning and refrigeration (HVAC/R) tradesperson 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 HVAC/R work, including assembling, installing, maintaining, and repairing industrial, commercial, and domestic air conditioning and refrigeration systems and equipment.

Refer to the Australian Refrigeration Council website for required units of competency to meet the refrigerant handling licence requirements.

[UEE42820 - Certificate IV in Air-conditioning Systems Energy Management and Control](#)

This qualification covers competencies to develop strategies for the reduction of energy in buildings and to recommend changes in the way in which energy is controlled in the building, either by the installation of new control equipment or by the modification or re-programming of existing equipment. It includes regulatory requirements for purchasing and handling refrigerants. The achievement of the qualification meets the training components for the full national Refrigerant Handling Licence which is required to work on refrigeration and air conditioning equipment that carries the risk of a fluorocarbon refrigerant being emitted while decanting the refrigerant or manufacturing, installing, commissioning, servicing, maintaining or decommissioning refrigeration and air conditioning equipment.

For further information or advise contact

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RAC MECHANIC/TECHNICIAN

EDUCATIONAL PATHWAYS continued

[UEE40520 - Certificate IV in Electrical - Air Conditioning Split Systems](#)

This qualification covers competencies to select, install, commission, fault find and maintain electrical systems and equipment in buildings and premises and split air conditioning systems to a prescribed routine where the maximum plant capacity for each system does not exceed 18 kilowatt (kW). It includes regulatory requirements for purchasing and handling refrigerants for split systems.

Split systems include wall hung, floor and ceiling suspended, cassette and ducted fan coil split systems. This qualification excludes competencies required for service, repair, maintenance or the safe and proper installation of commercial refrigeration and air conditioning plant and equipment.

The entry requirement for this qualification is:

UEE30820 Certificate III in Electrotechnology RAC mechanic or a current 'Unrestricted Electricians Licence' or its equivalent issued in an Australian state or territory as well as a Trainee Refrigerant Handling Licence.

[UEE42920 - Certificate IV in Refrigeration and Air Conditioning Systems](#)

This qualification covers competencies to determine heat loads and select equipment for basic commercial refrigeration or residential air conditioning applications. It includes regulatory requirements for purchasing and handling refrigerants. Basic commercial refrigeration includes commercial cold rooms, freezer rooms and cabinets with a single compressor or condensing unit. This does not include large, complex commercial applications or industrial applications. The achievement of the qualification meets the training components for the full national Refrigerant Handling Licence which is required to work on refrigeration and air conditioning equipment that carries the risk of a fluorocarbon refrigerant being emitted while decanting the refrigerant or manufacturing, installing, commissioning, servicing, maintaining or decommissioning refrigeration and air conditioning equipment.

[UEE50320 - Diploma of Electrical and Refrigeration and Air Conditioning](#)

This qualification covers competencies to select, install, set up, test, commission, fault find, repair, and maintain refrigeration, air conditioning and electrical systems and equipment in buildings and premises. This qualification contributes to the Refrigeration and Air Conditioning (RAC) Refrigerant Handling Licence.

[UEE51220 - Diploma of Air Conditioning and Refrigeration Engineering](#)

This qualification covers competencies to develop systems; select equipment; and commission, maintain and diagnose faults/malfunctions of refrigeration systems and equipment that apply to commercial food storage and preservation and air conditioning and air distribution equipment and special applications. It includes regulatory requirements for purchasing and handling refrigerants.

[UEE62420 - Advanced Diploma of Engineering Technology - Air Conditioning and Refrigeration](#)

This qualification covers competencies to design and validate/evaluate refrigeration and air conditioning equipment and systems and provide technical advice/sales.

[UEE62520 - Advanced Diploma of Air Conditioning and Refrigeration Engineering](#)

This qualification covers competencies to design and validate/evaluate refrigeration and air conditioning equipment and systems, manage risk, estimate and manage projects and provide technical advice/sales. It includes regulatory requirements for purchasing and handling refrigerants.

It develops competencies in the ethical and responsible application of mathematics, science, engineering techniques, standards and codes of practice, engineering design practices, supervision and management of physical, human and financial resources in refrigeration and air conditioning engineering.

Competency development activities in this qualification are subject to regulations directly related to licencing. A relevant contract of training through an apprenticeship or relevant employment may be required to enable the application of the required knowledge and skills to on the job work activities and environments.

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RAC MECHANIC/TECHNICIAN

CAREER PATHWAYS/SPECIALISATIONS

Refrigeration and Airconditioning Mechanic/Technicians

Refrigeration and air conditioning mechanics/technicians select components, assemble, install, test, fault-find, service and repair industrial, commercial and domestic heating, air distribution (ventilation), air conditioning and refrigeration (HVAC&R) systems in homes, shops, factories, office buildings, hospitals, supermarkets, cold stores and special climate control situations. When carrying out installation work, refrigeration and air conditioning mechanics/technicians may work on large commercial and industrial units that have to be installed part by part, or pre-assembled units that simply require installation.

Domestic units may come already assembled or in two sections between which refrigerant piping must be installed. Refrigeration and air conditioning mechanics/technicians may need to be skilled in pipefitting, welding and electrical wiring. They may have to work extended hours to fix breakdowns and carry out fault diagnosis and emergency repairs. They may work alone or with associated tradespeople such as electricians, pipe fitters, plumbers and carpenters.

Airconditioning Engineer

Air conditioning engineers oversee the design and installation of heating, ventilation and air conditioning systems from the time of creation to the final installation step. With their knowledge of design principles supported by computer-aided drafting technologies, they coordinate the design and creation of layout systems and fabrication sketches based on the customer's needs.

Industrial Refrigeration specialist


Working on large scale industrial freezers, chillers and cool rooms as well as customised systems to meet specific industry requirements for enterprises such as Abattoirs, meat processors, manufactures of frozen produce, ships etc.

Automotive Refrigeration and Airconditioning Mechanic/installer

Specialising in the installation and maintenance of automotive refrigeration and air-conditioning systems they may work for a major manufacturer, private business or individual contractor.

Self-employed

Once you complete your apprenticeship you can consider becoming self-employed and run your own business, or you may wish to increase your technical skills and knowledge. You can achieve the latter by completing further study or targeting a particular company that you would like to work for that might offer new career prospects or opportunities to work with cutting-edge technologies and innovations.

For further information relating to this job. Search the following web sites by clicking on the industry logo or scanning the QR code		
	Refrigeration and Air Conditioning Contractors' Association (RACCA) Australia	
		Australian Refrigeration Council (ARC) - NSW Utilities & Electrotechnology Industry Training Advisory Body (NSW UE ITAB)
	Australian Institute of Airconditioning, Refrigeration and Heating	

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RAC MECHANIC/TECHNICIAN

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 a Refrigeration and Air-conditioning mechanic or technician -

Step 1. identify your strengths and weaknesses, especially in maths and literacy as these are essential to being successful in an RAC mechanic or technician's 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 air-conditioning/refrigeration industry and choose the 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 audio-visual or data communication technicians 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 RAC mechanic or technician.

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HAVE YOU CONSIDERED THESE RELATED JOBS?

Other occupations in the electrotechnology or utilities industries that you might like to research are -

- ⇒ Business equipment technician
- ⇒ Lift mechanic
- ⇒ Electrician
- ⇒ Electrical fitter
- ⇒ Gas networks technician
- ⇒ Cable jointer
- ⇒ Powerline technician
- ⇒ Electronics technician
- ⇒ Computer systems technician
- ⇒ Instrumentation technician
- ⇒ Audio visual communications technician



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