

RESIDENTIAL AIR CONDITIONING SYSTEMS MECHANIC

A **residential air conditioning systems mechanic** works on any air conditioning system that is installed as an independent unit in a residential family dwelling. This equipment operates at less than 240V single-phase power with a maximum cooling capacity of 5 tons. This person has advanced knowledge of air conditioning technology and mechanical systems as well as basic knowledge of electricity and electronics and works in companies that design, build, install, service and maintain residential air conditioning systems.

Residential air conditioning systems mechanic is a **compulsory certified** trade regulated by the Trades Qualification and Apprenticeship Act. A person working in this trade must hold a valid Certificate of Qualification or be registered as an apprentice. Upon successfully completing the apprenticeship program and passing a trade examination, a person working in this trade is entitled to a Certificate of Apprenticeship and a Certificate of Qualification.

Entrance requirements

Grade 10 or equivalent

Program duration

About two and a half years

Work description

A refrigeration and air conditioning systems mechanic is a person who:

- plans, prepares and lays out any residential air conditioning system
- installs, starts up and verifies any residential air conditioning system
- installs and connects piping for the purpose of conveying all types of refrigerant used for both primary and secondary cooling
- maintains, services, repairs and replaces any residential air conditioning components and accessories, including the electrical and electronic components of the system
- services, tests, adjusts, commissions and decommissions any residential air conditioning system

ON-THE-JOB TRAINING

At the time of registration, an apprentice receives an **Apprenticeship Training Standard**. The Apprenticeship Training Standard outlines the skills training objectives to be met or competencies to be acquired on the job. These competencies equip an apprentice to work in the trade as a certified skilled worker or "journey person". The employer or sponsor or trainer of an apprentice signs the relevant section of the training standard to indicate the progress of the apprentice in meeting individual training objectives. This signature demonstrates that an apprentice has learned the skills established by industry that are essential for being a skilled worker.

IN-SCHOOL TRAINING

Residential air conditioning systems mechanic apprentices require two levels of theoretical training. Depending on availability at the chosen delivery agency, this training may be completed in one of the following ways:

- block release (full-time, 8 weeks for each level)
- day release (one day per week – same day each week – from September to June for each level)
- part-time (generally night-school programs)

At the time of registration, the training consultant discusses the schooling options to arrange the most suitable option for the apprentice and the employer.

In-school training for residential air conditioning systems mechanic apprentices includes instruction in:

- workplace health and safety
- applied trade mathematics
- engineering drawings and documentation
- trade practices
- mechanical cooling cycle fundamentals
- mechanical cooling cycle components and accessories
- electrical and electronic fundamentals
- pipe joining, welding, brazing and soldering
- installation and system start-up procedures
- applied psychrometrics
- pints and heat load calculations
- air conditioning systems
- air distribution systems and accessories
- electrical and electronic control systems
- rigging and hoisting



APPRENTICESHIP FAQ'S

Apprenticeship – What is it and how does it work?

Apprenticeship is a hands-on training program for people who want to work in skilled trades or occupations. About 90% of apprenticeship involves on-the-job training by sponsors of training or employers. The remainder consists of theoretical training, usually obtained at a college of applied arts and technology or another approved training delivery agency.

Training agreements between apprentices and their training sponsor or employer are prepared by an Employment Ontario employment and training consultant. In accordance with legislation, each training agreement is an individualized contract or training plan between a person who wants to learn a skilled trade and the training sponsor or employer.

Apprentices and training sponsors or employers benefit from apprenticeship training. Apprentices learn to become qualified tradespeople or “journeypersons”, and training sponsors or employers gain highly skilled employees with up-to-date knowledge and work techniques. Jobs in skilled trades or occupations provide challenging work and good careers.

How long does an apprenticeship last?

Most apprenticeships take two to five years to complete, depending on the trade or occupation. At the time of registration, prior education and related work experience are considered, where appropriate, to potentially reduce the length of the program. Flexible in-school training options are generally available to meet the specific needs of apprentices and their training sponsor or employer.

How does a person register for apprenticeship training?

When a person who wants to be an apprentice has found a training sponsor or employer willing to engage in apprenticeship training, either the person or the training sponsor or employer should contact apprenticeship staff at the local Employment Ontario office. An employment and training consultant will arrange a meeting at the workplace to assess the ability of the training sponsor or employer to train and assess the person, prepare the training agreement or contract, and initiate the training.

Are there other pathways to apprenticeship training?

The Co-Op Diploma Apprenticeship program allows students attending college to receive apprenticeship training while earning a diploma. The Pre-Apprenticeship Training program helps unemployed individuals strengthen their skills and increase their eligibility for apprenticeship training in a specific skilled trade.

Can a student start an apprenticeship while attending high school?

The Ontario Youth Apprenticeship Program (OYAP) allows high school students to register as apprentices while earning cooperative education credits through work placements in skilled trades. Interested students should contact their guidance counsellor, technical teacher, or apprenticeship staff at the local Employment Ontario office for more information.

Does the government encourage employers to hire apprentices?

Ontario needs more skilled workers, and more employers training skilled workers. To this end, the Ontario government provides the Apprenticeship Training Tax Credit to corporations and unincorporated businesses that hire apprentices in certain skilled trades, and an Employer Signing Bonus to employers who register new apprentices in sectors in which skilled workers are in high demand.

Does the government provide financial support to apprentices?

Apprentices can benefit from the Ontario government's Apprenticeship Scholarship and Loans for Tools programs. The federal government offers assistance through its Apprenticeship Incentive Grant and Apprenticeship Completion Grant programs.

What is the “Red Seal Program”?

The Interprovincial Standards Red Seal Program was established to provide greater labour mobility for skilled workers who wish to move from one part of Canada to another. It encourages the standardization of provincial/territorial training and certification programs. Many Ontario trades are part of the Red Seal Program. In these trades, people who successfully challenge a Red Seal trade examination receive a Certificate of Qualification with a distinctive red seal that is recognized across Canada.

To learn more about apprenticeship in Ontario, visit the Employment Ontario website at www.ontario.ca/employment, call the Employment Ontario Hotline at 1-800-387-5656 or 416-325-4084 for service for the deaf, or visit an Employment Ontario office and talk to a counsellor.