



## HVAC Engineer Profile

Every home and business in the United States is built with the cooperation of HVAC engineers. These are the people responsible for installing the proper heating, ventilation, and air conditioning units in these buildings. That means every summer and every winter people should be sending thank you notes to the HVAC engineers who worked on their property. While that's not a trend likely to take off, understanding trends in the HVAC industry can help you decide if taking up this profession is the right choice for your future.

### The HVAC Engineer Jobs

When you take on the job of an HVAC engineer, you are taking on an important responsibility. You must have an excellent understanding of the machinery and equipment you are going to be working with on a regular basis. You will need to thoroughly read blueprints and schematics so you can follow the directions precisely. There is little room for error in this type of work so quality must always be a top priority.

While working as an [HVAC engineer](#), you may be required to handle dangerous materials. When this part of your job appears, you must follow strict safety guidelines for the protection of your own health as also the health of the other workers on the job.

While you may know how to install HVAC equipment and to repair it, you will probably not have to do both at the same time. Most HVAC engineers specialize in one of these two areas. During your training, you may want to decide which one you prefer, so that you can pursue it as your career.

### Education & Training

Before you consider working as an HVAC engineer, you must make sure you are in good physical condition because the work is very labor intensive. Having some knowledge of reading blueprints, using electronics, and understanding mechanical drawing is also going to be useful as you start your vocational education.

To ensure you have the [best job opportunities](#) possible, you should complete formal post-secondary training. These programs are available through many avenues, including trade schools, junior colleges, and even the armed forces. Completion of the program usually takes between 6 months to 2 years depending on where you choose to gain your education.

Once you complete your education, you will still need hands-on experience before being fully ready to tackle the responsibilities of an HVAC engineer. For this reason, many people interested in pursuing this career take an apprenticeship, which can last for 3 to 5 years if it is a formal program. During this time you will be paid and will be working in your field under the guidance of a more experienced professional.

After you complete your training, you will want to become certified. Not all states require certification but it's still a good idea because it makes you a more valuable employee. If you are going to be working with refrigerant, you'll need to pass a certification to receive permission for this part of your work as well.

### Specialization

In addition to specializing in either installation or maintenance, you may also end up focusing on either heating or refrigeration as your primary industry. This makes sense because there are differences in some aspects of both types of equipment and you may specialize further by staying up-to-date on one more than the other. However, you may also choose to work on both since that will provide you with steady, year-round work in the industry and will make you a better hiring choice for many employers.

### Work Environment & Condition

As an HVAC engineer, you'll end up working in a wide range of areas. For example, you could work in homes or in retail establishments. You might also be hired by a single company to handle all their HVAC needs or you may be an engineer specializing in installing or repairing a certain brand of equipment. You could also end up working with certain contractors to handle the installation of equipment into homes, offices, and other facilities that are being constructed.



## HVAC Career Feature

Regardless of where specifically you are working, chances are you will be in a back room or a machine area. Often these places are fairly tight. In some homes, you may also end up working in the basement or the attic areas because this is where the heating, air conditioning, and ventilation systems are most often installed.

### Expected Salary

According to figures by the Bureau of Labor Statistics, the average wage for an HVAC engineer in 2006 was \$18.11 per hour. However, hourly wages for the field spanned from under \$11 to almost \$30 per hour. During your time as an apprentice, your pay will be approximately half of that of a more experienced HVAC engineer.

Using the median hourly wage and figuring the rate for a 40-hour week, the yearly salary for the average HVAC engineer is just over \$37,000.

### Job Outlook

The job outlook for the HVAC engineer looks promising, especially if you have completed a course of study and

possibly received certification in this field. According to the Bureau of Labor Statistics, the number of available positions in this field will increase by about 9% or 25,000 jobs by 2014. There are a number of reasons for this increase.

For one, many HVAC engineers are going to be retiring in the near future. Because of the physical demands of the job, these retirements do tend to occur at a younger age than in other professions. Also, the HVAC market is being expanded to include new environmentally friendly products and products focused on providing improved air quality. All of these new products are gaining in popularity with business owners and consumers, so installation needs will be increasing.

Plus, the average HVAC system is only expected to last a decade or so. That means the homes, which were built at the beginning of this decade, during the housing boom, are going to need replacement and more frequent repairs in the coming years, which will increase demand as well.

EmploymentCrossing is the largest collection of active jobs in the world.

We continuously monitor the hiring needs of more than 250,000 employers, including virtually every corporation and organization in the United States. We do not charge employers to post their jobs and we aggressively contact and investigate thousands of employers each day to learn of new positions. No one works harder than EmploymentCrossing.

Let EmploymentCrossing go to work for you.