

# HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION CERTIFICATE OF ACHIEVEMENT

This certificate is designed to prepare students with the necessary knowledge and skills to obtain entry-level employment in the field of heating, ventilation, air conditioning and refrigeration, installing, maintaining, and repairing such systems.

Code	Title	Units
<b>Required Courses</b>		
HVAC/R 001	HVAC/R Fundamentals	4
HVAC/R 002	Domestic Mechanical Refrigeration	4
HVAC/R 003	Commercial Mechanical Refrigeration	4
HVAC/R 004	Electrical Fundamentals for HVAC/R	4
HVAC/R 005	Commercial Electric for HVAC/R	4
HVAC/R 006	HVAC/R Air Distribution Systems	4
HVAC/R 007	Welding for HVAC/R	3
Environmental Protection Agency (EPA) Universal Certification (608)		

**Students must be eligible for MATH 102 or higher as determined by the SBVC assessment process, if not, choose one course below:**

MATH 095	Intermediate Algebra	4
MATH 096	Elementary and Intermediate Algebra	5
TECALC 087	Technical Calculations	4
<b>Total Units</b>		<b>27-32</b>

Code	Title	Units
<b>Recommended Course</b>		
Students are encouraged to take this course to augment their knowledge of air conditioning and heating:		
AUTO 056	Automotive Heating and Air Conditioning	4

*Students working for certificates must have a basic knowledge of arithmetic, reading and writing in order to learn and work in the occupations they select.*

***This is a Gainful Employment Program***

## Program Learning Outcomes

**At the completion of this program, students will be able to:**

- Select and operate the required test equipment and during troubleshooting and repair operations, with an emphasis on safety in use and accuracy in results
- Analyze, interpret, and trace signal flow diagrams used in signal tracing of complex wiring circuits
- Effectively communicate with and advise customers and co-workers, both written and orally, regarding the progress of and decisions made concerning test and repair procedures
- Pass the practice RSES and NATE exam on the theory and procedures of the HVAC/R technology