

AIR CONDITIONING AND REFRIGERATION, CERTIFICATE OF ACHIEVEMENT

The Air Conditioning and Refrigeration (HVAC/R) Certificate of Achievement at Oxnard College is a Career Technical Education program that provides occupational training to prepare students for jobs in the HVAC/R industry, including the green economy sector, especially related to heat pumps and renewable energy technologies. The program also provides valuable hands-on practice for existing HVAC/R technicians who desire to expand and update their knowledge and skills to advance in the industry. Students in the program learn the theoretical, technical, and problem-solving skills essential for employment and advancement in the HVAC/R industry. By fulfilling the program requirements, students will have the necessary knowledge and skills for a career in residential, commercial, and industrial service and repair of air conditioning, heating and refrigeration systems. Environmental Protection Agency (EPA) refrigerant certification will be received. Electrical controls, piping installation, compressor installation and repair are just some of the skills that will be mastered during this program.

Upon successful completion of this program, students will be able to:

- Troubleshoot and perform basic mechanical and electrical service and repairs on air conditioning (HVAC) systems.
- Locate and identify applicable codes, licensing requirements, and best practices as they relate to the installation of various types of HVAC/R equipment and prepare to sit for certification tests.
- Read, draft, and explain various construction drawings and electrical schematics used in the HVAC industry.
- Apply skills, tools and equipment practiced to retrieve heating and cooling pressures safely and properly.
- Describe solutions to heating and cooling system malfunctions using proper diagnostic equipment.
- Analyze complex air delivery using measurements and components and locate device controllers responsible.

Course ID	Title	Units/ Hours
Required Core Courses		
AC R015	Introduction to HVAC/Refrigeration	5
AC R015L	HVAC/Refrigeration II Lab	2
AC R025	HVAC/R Electrical Systems	5
AC R025L	HVAC/R Electrical Systems II Lab	2
AC R035	Air Distribution Systems	5
AC R045	Heating Systems	5
AC R191	Work Experience Education in Air Conditioning	3
Total Required Major Units		27

Note: Environmental Protection Agency (EPA) testing is available to all students at a discounted rate.

To earn a Certificate of Achievement (COA), a student must complete all courses within the certificate with a grade of "C" or better (or "P").

Year 1		
Fall Semester		Units/Hours
AC R015	Introduction to HVAC/Refrigeration	5
AC R025	HVAC/R Electrical Systems	5
Units/Hours		10
Spring Semester		
AC R015L	HVAC/Refrigeration II Lab	2
AC R025L	HVAC/R Electrical Systems II Lab	2
AC R035	Air Distribution Systems	5
Units/Hours		9
Year 2		
Fall Semester		
AC R045	Heating Systems	5
AC R191	Work Experience Education in Air Conditioning	1-14
Units/Hours		6-19
Total Units/Hours		25-38