

AIR CONDITIONING AND REFRIGERATION, ASSOCIATE IN SCIENCE

The Air Conditioning and Refrigeration (HVAC/R) Associate in Science program 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. Completing the AS degree can open higher paying opportunities and a faster way to a living wage. 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.

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
Oxnard College General Education Pattern		24
Double-Counted Units		0
Free Electives Required		9
Total Required Units for A.S. Degree		60

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

In order to earn an Associate in Science in Air Conditioning and Refrigeration, students are required to:

1. Complete Oxnard College's General Education requirements to include areas 1-7.
2. Complete all required coursework for the Air Conditioning and Refrigeration major as listed in the Oxnard College catalog with a grade of "C" or better (or a "P") in each of the courses selected.
3. Complete a minimum of 60 degree-applicable units.
4. Complete requirements in scholarship (2.0 minimum cumulative degree-applicable GPA).
5. Complete 12 units in residence within the Ventura County Community College District.

Note: This program is a career education program, not designed to prepare students to transfer to a four-year institution/university, and while the major courses within the Air Conditioning and Refrigeration program in the discipline of "AC" are Associate Degree applicable, they are not transferable. Students seeking to transfer will need to complete a total of 60 CSU or UC transferable units, including major preparation courses and general education, which may include the California General Education Transfer Curriculum (Cal-GETC), depending on their transfer destination. Students who complete Cal-GETC may use it to satisfy the GE requirements of this Associate degree instead of the Oxnard College General Education requirements. Students are encouraged to meet with a college counselor for assistance with their educational planning.

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		Units/Hours
AC R045	Heating Systems	5
AC R191	Work Experience Education in Air Conditioning	1-14
Units/Hours		6-19
Total Units/Hours		25-38

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.