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 R010	Introduction to Air Conditioning and Refrigeration	3
AC R010L	Introduction to Air Conditioning and Refrigeration I Lab	2
AC R011L	Air Conditioning and Refrigeration II Lab	2
AC R020	Electrical Systems I	3
AC R020L	Electrical Systems I Lab	2
AC R021L	Electrical Systems II Lab	2
AC R030	Airside Systems	3
AC R030L	Airside Systems Lab	2
AC R040	Heating and Control Systems	3
AC R040L	Heating and Control Systems Lab	2
COT R190V	Occupational Cooperative Unpaid Work Experience	3
or COT R191V	Occupational Cooperative Paid Work Experience	
Total Required Major Units		**27**
Oxnard College General Education Pattern		29
Double-Counted Units		0
Free Electives Required		4
Total Required Units for A.S. Degree		**60**

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

To complete the Associate Degree, students must meet requirements in the major, general education, competency, units, scholarship, and residency. Refer to Earn an Associate Degree (http://catalog.vcccd.edu/oxnard/graduation-requirements/earn-associate-degree/) and the A.A. or A.S. Degree in Specific Majors (http://catalog.vcccd.edu/oxnard/graduation-requirements/associate-degrees-specific-majors/) sections of this catalog.

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 comprehend 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.