

# HVAC CODES AND ESTIMATING CERTIFICATE

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Division: Career Technical Education

PROGRAM CODE: 1C31106N20

The **HVAC Codes and Estimating Certificate** provides students with a career path for attaining the communication skills, practical knowledge, and technical training necessary for pursuing a career in application design and cost estimating. Students completing this certificate will develop an advanced understanding of application design and cost estimating. To earn this certificate, complete the required courses as listed with a grade of C or better. At least 50% of all major course work must be completed at Cypress College. This certificate requires a total of 19 units.

Code	Title	Units
<b>Required Courses are listed in suggested sequence (17 units):</b>		
AC/R 100 C	Principles of Thermodynamics and Heat Transfer	3
AC/R 110 C	Air Flow Design & Psycmtrcs	2
AC/R 137 C	Blueprints and Dimension Analysis (formerly AC/R 037 C)	2
AC/R 115 C	Gas Heat Transfer Systems	3
AC/R 135 C	Sustainability Design and Application (formerly Solar Energy for Heat and Cool)	2
AC/R 215 C	Codes and Commissioning (formerly Estimating for HVAC)	3
AC/R 245 C	Load Calculations for Heating and Cooling (formerly AC/R 145 C)	2
AC/R 235 C	Air Conditioning Capstone	2
<b>Total Units</b>		<b>19</b>

## Program Student Learning Outcomes:

**OUTCOME 1:** Acquire the workforce preparation skills, including, advanced knowledge of sustainability and energy efficiency, and technical training, necessary for a career in building codes and cost estimating.

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