




## CERTIFICATE

### Air Conditioning Environmental Controls = 25.5-26 units

Program Code: 1C31189

Required courses are listed in numeric sequence:		Units
_____AC/R 100 C	Principles of Thermodynamics and Heat Transfer	3
_____AC/R 110 C	Air Conditioning I	3
_____AC/R 036 C	Refrigerants, Charging and Recovery	1
_____AC/R 137 C	Blueprints and Dimension Analysis	2
_____AC/R 050 C	HVAC-R Special Projects	.5-1
_____AC/R 105 C	Electricity for Air Conditioning and Refrigeration I	3
_____AC/R 106 C	Electricity for Air Conditioning and Refrigeration II	3
_____AC/R 115 C	Gas Heating and Carbon Monoxide	2
_____AC/R 125 C	Boiler and Hydronic Heating	2
_____AC/R 135 C	Solar Energy for Heat and Cool	2
_____AC/R 145 C	Load Calculations for Heating and Cooling	2
_____AC/R 220 C	A/C Controls and Energy Management	2
<b>Total Units Required</b>		<b>25.5-26</b>

 **Key Tips:** You may opt to “double major” by applying some of these courses to other **Air Conditioning & Refrigeration Degree/Certificate Programs**. Remember to apply for certificates/degrees/graduation at the beginning of your last semester.

## GOALS AND OBJECTIVES

The Controls and Energy Management Certificate provides students with a career path for attaining the communication skills, practical knowledge, and technical training necessary for pursuing a career in controls and energy management. Students completing this certificate will develop an advanced understanding of building controls and energy management.

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### Air Conditioning Environmental Controls (24 units)

To earn this certificate, complete the required courses as listed with a minimum grade of "C." At least 50% of all major course work must be completed at Cypress College.

Updated 7/2019