### **DEGREES AND CERTIFICATES**

College of the Desert offers the following Degrees and Certificates:

### A.S. DEGREES:

For employment preparation
Air Conditioning and Refrigeration

#### **CERTIFICATES OF ACHIEVEMENT:**

For employment preparation Air Conditioning and Refrigeration Energy Systems Technology

For more information about all Certificate options, please visit: cod2careers.com



# **College of the Desert**

School of Applied Sciences and Business

George Brown, Instructor
Air Conditioning, Refrigeration and Energy
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This project received \$1,469,805 (9.8% of total) from a grant awarded under the TAACCCT program as implemented by the U.S. Department of Labor.



### Anna Zepeda

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This program is eligible for financial assistance under the Workforce Innovation & Opportunity Act (WIOA). Certain eligibility requirements apply.



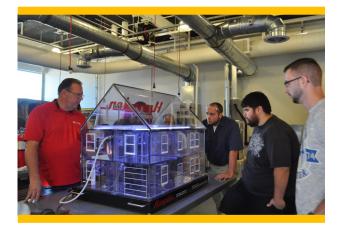
## **Partnership and Community Education**

72840 Highway 111, Suite C-101 Palm Desert, CA 92260 760-776-7420

codpace@collegeofthedesert.edu www.collegeofthedesert.edu/PaCE

PaCE (Partnership and Community Education) is a training center of College of the Desert providing short-term training and certification services to individuals and businesses.

# Air Conditioning, Refrigeration and Energy Systems Technology



# NEW FAST TRACK 1 YEAR!

Students may begin classes in January, February,
September, or June



43500 Monterey Avenue Palm Desert, CA 92260 760-346-8041 www.collegeofthedesert.edu

### **HVACR** — **ESYS**

HEATING, VENTILATION,
AIR CONDITIONING, REFRIGERATION
and ENERGY SYSTEMS

The mission of the HVACR (Heating, Ventilation, Air Conditioning and Refrigeration) & ESYS (Energy Systems Technology) programs is to continuously strive to meet the needs of the community as it experiences changes in the economy, environment and in the use of technology.

Students enrolled in our programs have the opportunity to be trained, retrained or upgrade their career skills through existing occupational/vocational programs, as well as general education programs. Partnerships and contractual education with the private sector and public agencies assist students in receiving needed education, skills and opportunities.



### **PROGRAM HIGHLIGHTS**

Students receive hands-on experience subsequent to lecture that allows them to put their classroom knowledge to practical use. The faculty utilizes a wide variety of tools, simulators and training devices to demonstrate, then allows students to test, inspect, repair and install necessary components of HVACR and Energy Systems.

In lecture and lab experience, students learn the proper safety and use of:

- Basic hand tools and power tools
- Plumbing and electrical tools
- Flaring and Swaging tools
- Carbon monoxide testers
- Voltmeters
- Various refrigeration gauges
- Evacuation and Recovery equipment
- Acetylene torches for brazing
- Leak detectors
- Hazardous Materials Refrigerant, etc.
- Computers and field related software
- Thermal imaging technology

Students also learn how to troubleshoot problems similar to what may occur in the real world. When completing coursework students have a basic practical experience in installation and repair, including:

- Using blueprints or design specifications to install or repair HVACR systems
- Connecting systems to fuel and water supply lines, air ducts and other components
- · Understanding an electrical wiring diagram
- Installing electrical wiring and controls
- Testing and diagnosing individual components to determine necessary repairs
- Repair or replacement of worn or defective parts
- Determining HVACR systems' and building energy use and make recommendations to improve overall efficiency
- Conduct system commissioning tests
- Airflow diagnostics

### OUTLOOK

The HVACR Workforce Development Foundation has recently released three detailed reports that reveal a shortage in the HVACR industry workforce. Their reports shows that the demand for HVACR technicians is greater than originally projected by the US Bureau of Labor and Statistics in 2012.

- ✓ 220,734 HVACR job openings were available for the entire year of 2014.
- The supply is not keeping up with demand and over 100,000 people will be needed to fill HVACR positions in the next seven (7) years due to industry growth and retirement.
- Over 80% of the jobs available in the HVACR industry **do not** require a bachelor's degree and earn an average salary of \$49,259 compared to the national average wage of \$44,888.
- √This is great news for students entering into HVACR certificate and associate degree programs! Students can continue to complete the necessary training and gain the skills required for a career without acquiring a multitude of debt.



### **JOBS IN DEMAND**

- Installer
- System Designer
- Service Technician
- HERS Rater
- Building Operator
- Building Maintenance
- Facilities Maintenance
- Technician
- Project Coordinator
- Dispatchers
- Sales
- Commissioning Technician
- Zero Net Energy Technician