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# GREEN FIRE TIMES

*News & Views from the Sustainable Southwest*



SANTA FE COMMUNITY COLLEGE'S TRADES & ADVANCED TECHNOLOGY CENTER

VOLUME 16 NUMBER 3

GREENFIRETIMES.COM



# The Energy Smart Academy at SFCC

*Building Science and Energy Efficiency*

BY DAVID BEST

The Energy Smart Academy (ESA) at Santa Fe Community College (SFCC) offers high-quality, consistent, energy-efficiency and green-jobs professional training to students from New Mexico and throughout the United States, through



both in-person and online instruction. Our courses in energy-efficient retrofit methods, water conservation, energy auditing, cold-climate heat pumps and workplace safety prepare students to build a greener future of healthier, more comfortable buildings. With state-of-the-art training facilities, mobile HVAC training props and nationally recognized trainers, SFCC's training benefits industry professionals, residents and business owners as we move toward a decarbonized economy. We offer classes for experienced energy auditors, installers, inspectors, architects



*Left: Instructor Gerardo López and a student perform combustion analysis on a water heater; Above: López sets up a blower door in the ESA lab and performs a blower door test*

and contractors, as well as those who are new to the fields of building science and energy efficiency.

Our story began in 2010, when the New Mexico Mortgage Finance Authority (MFA) selected SFCC as the primary training provider for contractors performing work under the New Mexico EnergySmart Weatherization Program (NMWAP). The ESA initially was established to provide comprehensive training in all aspects of energy efficiency and residential weatherization to MFA contractors throughout New Mexico and has since expanded to provide weatherization training across the country. In 2014, the ESA was one of the first programs in the country to qualify as an "Accredited Training Program" by the Interstate

A large photograph showing a group of people in waders wading through a river. They are equipped with various tools and equipment, including a red box and a blue backpack. The background shows a natural, wooded area with trees and a clear sky.

Together,  
we find  
a way.

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Renewable Energy Council (IREC) for all four of its core weatherization training programs.

During the Covid pandemic, we were able to continue to operate online and through limited capacity, socially-distanced in-person sessions as restrictions allowed. We are now offering more in-person training and developing new courses to serve the emerging demand for market-rate home-energy audits, home-electrification expertise and building-science knowledge. This has been spurred by incentives in the Inflation Reduction Act (IRA) and by new building codes.

### What is a Home Energy Audit?

A Home Energy Audit is a comprehensive analysis of a home's energy use, based on an inspection of the home and past energy bills, which identifies the most cost-effective energy efficiency improvement measures for a specific home. Home energy auditors are trained and certified to specific standards, such as those established by the Building Performance Institute (BPI). A typical Home Energy Audit will include testing the home's air-infiltration rate with a specialized tool called a blower door, measuring the wall, ceiling, window and door areas and determining what insulation (if any) is present. Any combustion appliances in the home will also be tested to determine if they are operating safely and efficiently.



### What is weatherization? What is the Weatherization Assistance Program?

Weatherization refers to work done by contractors or DIYers to improve a home's airtightness and insulation. Care must be taken to combine insulation and air-sealing efforts to optimize insulation performance and prevent moisture and indoor air quality problems. The Weatherization Assistance Program (WAP) provides

Left: The lab's test cabin; Right: a student sealing ductwork  
Photos © Seth Roffman and courtesy SFCC

weatherization services and other energy-saving retrofits at no charge to eligible low-income households (homeowners and renters). Weatherization work performed under WAP always includes an energy audit and follow-up testing for quality assurance purposes. Combustion appliances are evaluated and adequate fresh air ventilation is added when required.

### What is a Blower Door Test?

A blower door test is used to evaluate the airtightness of a home or other building. The blower door fan is installed in an exterior doorway, all doors and windows are closed, and the fan is adjusted to create a specific pressure difference between indoors and outdoors. Air will always find its way into a building through small openings, so the fan must run constantly to maintain the building pressure during the test. The airflow required to maintain this pressure is used as a measure of a building's air leakage. ■

David Best is a senior trainer and building science specialist at Santa Fe Community College's Energy Smart Academy. To learn more about training and certification opportunities, contact [ESADIRECTOR@SFCC.EDU](mailto:ESADIRECTOR@SFCC.EDU).

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