



PROGRAM HANDBOOK



2021-2022



SANTA FE COMMUNITY COLLEGE
CENTER OF EXCELLENCE

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THE ENERGYSMART ACADEMY

OVERVIEW

The mission of the EnergySmart Academy (ESA) at Santa Fe Community College (SFCC) is to offer students high-quality, consistent energy efficiency and green jobs professional training throughout New Mexico and its surrounding states; reduce energy and water use and greenhouse gas emissions; and engage with our community and the greater professional industry. With our state-of-the-art lab, Mobile Field Rig and nationally-recognized trainers, our training benefits industry professionals, residents and business owners in our state. We invite professionals to join the “New Green Jobs Economy.” We train energy auditors, installers, inspectors, infrared thermographers, architects, contractors and other industry-related professionals.

With the Interstate Renewable Energy Council accreditation of four core ESA training programs, SFCC is committed to providing quality workforce development training through its Trades and Advanced Technologies Center (TATC). TATC programs promote strategies and technologies in order to grow a sustainable economy in New Mexico and the region. Comprehensive training in energy efficiency and residential weatherization courses are available through the ESA. Both credit and non-credit courses are provided through SFCC. In addition, SFCC provides an Associate in Applied Science (AAS) Degree in Building Science/Construction Technologies. SFCC also offers certificate programs in Biofuels, Green Building Construction Skills, Green Building Systems and Solar Energy through the TATC.

The New Mexico EnergySmart Weatherization Program (NMWAP) is administered by the New Mexico Mortgage Finance Authority (MFA). In 2010, SFCC was selected as the MFA’s primary training provider for its weatherization contractors and given the opportunity to create the EnergySmart Academy. The ESA initially was established to provide comprehensive training in all aspects of energy efficiency and residential weatherization to MFA contractors throughout the state of New Mexico and has since expanded to provide weatherization training across the country.

As an Academic Quality Improvement Program (AQIP) institution, SFCC is implementing quality assurance and quality control measures in all of its degree and certificate programs. With our IREC accreditation, we instill confidence in our students that we have a process in place to maintain and continuously improve industry-targeted curriculum that meets established professional standards and the needs of the emerging market in our state. For industry stakeholders and potential employers of our graduates, the credibility associated with accreditation adds to the growing reputation of SFCC and the ESA as a quality institution producing a well-trained workforce that meets growing energy-smart industry needs.

Santa Fe Community College (SFCC) has been accredited by the Higher Learning Commission (HLC) of the North Central Association (NCA) of Colleges and Schools since 1983. SFCC accreditation was last renewed in 2020 and will be up for renewal again in 2028. For more information contact: The Higher Learning Commission of the North Central Association of Colleges and Schools, 30 North LaSalle Street, Suite 2400, Chicago, Illinois 60602-2504, (800) 621-7440, www.ncacihe.org. SFCC was accepted as an Academic Quality Improvement Program (AQIP) institution by the HLC in the fall of 2007 and has implemented several AQIP Action Projects. The college submitted its first AQIP Systems Portfolio in June, 2011.

THE ENERGYSMART ACADEMY AND IREC ACCREDITATION

The ESA was one of the first programs in the country to qualify as an "Accredited Training Program" by the Interstate Renewable Energy Council (IREC) for all four of its core training programs. This accreditation demonstrates our commitment to providing quality training to develop a competent workforce and increase professionalism in the weatherization industry. Implementing the processes to review our goals, evaluating the effectiveness of our program, collecting the information necessary to document our progress and establishing effective procedures to train weatherization workers are key elements of our programs.

IREC accreditation also demonstrates our accountability to the SFCC Board of Directors, students, faculty and industry stakeholders. Accreditation provides the mechanism for continuous improvement in the quality and effectiveness of our training program to meet the needs of the energy efficiency workforce in this emerging industry, both in New Mexico and nationally.

The following ESA courses have received IREC accreditation:

RETROFIT INSTALLER TECHNICIAN (RIT)

Installs energy-efficient measures in single family or multi-unit homes using a variety of best practices in order to improve safety, comfort, durability, indoor air quality and energy efficiency.

CREW LEADER (CL)

Supervises the retrofit activities specified in the scope-of-work. The Crew Leader interacts with the client and manages personnel and materials on the job site in a safe and effective manner. Additionally, the Crew Leader is responsible for quality control, testing procedures, documentation and conducting a final walk-through of the job site to ensure all work is completed in a satisfactory manner.

ENERGY AUDITOR (EA)

Evaluates and analyses construction/buildings, energy efficiency and health & safety, in order to gather empirical data. To do so, the Energy Auditor conducts tests and uses energy modelling software to identify areas for savings, reduced energy consumption and improved health and safety of residents.

QUALITY CONTROL INSPECTOR (QCI)

Verifies work performed against the work plan, specifications and standards. The Quality Control Inspector performs building diagnostics, records/reports findings and specifies corrective actions to ensure the completion, appropriateness and quality of work performed for the safety, comfort and energy savings of building occupants.

Course descriptions and summaries for the ESA are available online

<https://www.energysmartacademy.com/comprehensive-training.html>

The Interstate Renewable Energy Council, Inc. (IREC) is the North American regional licensee of the IREC International Standard 01023: 2013, General Requirements for Trainers and Training Programs Offering Renewable Energy, Energy Efficiency, or Distributed Generation Training. IREC, a nonprofit organization, is responsible for the full accreditation and certification cycle including processing applications, assigning registered assessors, awarding the credential and maintaining all records of applicants, candidates and recipients.

INSTRUCTIONAL PHILOSOPHY

Analyzing the National Renewable Energy Laboratory (NREL) Job Task Analyses (JTAs) for each job, we developed comprehensive curricula and expanded it to include Weatherization Technical Standards and Building Performance Institute (BPI) certification standards. In an effort to ensure a high degree of quality and consistency in our training, courses are developed using the six adult learning principles of Malcolm Knowles' "Theory of Andragogy." This provided us a way to analyze and develop course content, assess student learning progress, implement changes and evaluate course content and delivery.

1. Adults want to know why they need to learn something.
2. Adults are self-directed in their learning.
3. Adults bring their own experiences to the learning environment.
4. Adults are ready to learn things applicable to their life.
5. Adults are task-centered.
6. Adults respond to internal motivators.

We ask all of our faculty and trainers to read and comply with both the SFCC Mission Statement and all ESA-appropriate training and instructional design standards in this Program Handbook. In so doing, we seek to set the highest possible standards based on years of professional experience. We continually review and improve our efforts. Instructors are encouraged to use the professional development resources for faculty at SFCC. In addition, they regularly attend Department of Energy (DOE) and BPI sponsored webinars, participate and present at regional and national industry conference and contribute to the Weatherization Trainers' Consortium Network. We seek to develop our staff and encourage professional skills where appropriate to further their knowledge base and increase the quality of the training program.

OUR ACHIEVEMENTS

- Provided extensive trainings since first established including Energy Auditor; Retrofit Installer Technician; Quality Control Inspector; Multi-family Quality Control Inspector; OSHA 30-hour for General Construction; OSHA Fall Protection Training; Combustion Testing; DOE LeadSafe Weatherization; and EPA Lead Renovation, Repair and Painting, both on-site and across the country.
- Equipped a training lab with a fully-functioning diagnostic cabin, various BPI-modelled props and scale models of homes to demonstrate thermal bypass and advanced framing.
- Retrofitted an older mobile home on-site to include a combustion lab, opportunities for insulation trainings, non-IC and IC-can displays and more.
- Offered private-sector classes including Building Performance Institute certifications, RESNET HERS-rater training, Infrared Thermography, Energy Star Version 3, Green Appraisal Certification, LEED GA and ACCA Manual J training.
- Developed online Healthy Home Evaluator training, accessible for anyone with a smart device.
- Provided Building Operator Certification Level I trainings and partnered with a local utility to offer subsidized classes.
- Participated in the development of the national Water Efficiency Rating Score (WERS) and offered the first Train the Trainer class.
- Created a national Weatherization Collaborative to develop and share DOE-mandated Standard Work Specification field guides
- Developed innovative Commercial Restaurant and Hotel Water Auditing classes, in partnership with City of Santa Fe

LINKAGES WITH INDUSTRY

The New Mexico Mortgage Finance Authority (MFA) is the principal agency stakeholder with the ESA. The ESA also works closely with New Mexico weatherization agencies, businesses and governmental entities. Finally, we work with DOE-funded WAP agencies across the country, providing on-line and field trainings. We look for advice from industry stakeholders to guide us in the development of curricula and provide feedback on the skills of our graduates.

On at least an annual basis, the Program Director will contact relevant stakeholders for feedback and suggestions. This annual feedback is considered as it is received and presented at the next curriculum maintenance meeting, along with Student Evaluations. Their usefulness or relevance is discussed, as well as how to integrate new ideas into the curriculum.

SPONSORSHIP AND TRADEMARK DISCLAIMER

The ESA does not assume any legal liability or responsibility in reference to any sponsorship or donation provided by outside persons or organizations to the Academy. Reference to any specific commercial product, process or service by trade name, trademark, manufacturer or otherwise, during classroom instruction, online instruction or in publication, does not necessarily constitute or imply the ESA's endorsement or recommendation.

INTERNAL AUDITING AND REVIEW PROCEDURES

SFCC requires all programs and departments to undergo annual review internally by the Office of Planning and Institutional Effectiveness (OPIE) in order to maintain transparency with the community and stakeholders. Through its annual OPIE audit, the ESA complies with all review and audit processes, including providing access to instructor evaluations and student records. Following said audits, the report is submitted to the ESA Program Director to implement any need for corrective action.

In the event the OPIE audit finds need for corrective or preventative measures, the ESA Program Director works with Grants Management and ESA staff and faculty to implement a plan for corrective action. Minutes and electronic copies of all related meetings and communications are kept secure on the ESA server to preserve for future review.

After corrective or preventative actions, the following OPIE audit will take particular focus to verify that audited circumstances have been adjusted to meet institutional and accreditation standards.

CERTIFICATION AND USE OF CERTIFICATES

ESA courses are designed to align with industry certifications and standards, including those set forth by the DOE and Building Performance Institute (BPI). For the Energy Auditor, Retrofit Installer Technician, Crew Leader and Quality Control Inspector courses, the culmination of coursework involves a certificate of completion from SFCC and may include proctored challenging of their equivalent BPI exams. Maintenance of said BPI certifications is determined by BPI. Students are encouraged to share their digital badge/certificate of completion with employers and contractors to verify that instruction has been received and completed successfully.

The Multi-Family Quality Control Inspector course does not, at this time, have a corresponding national certification. As a result, the development of this course has been focused on creating an examination and certification on par with national industry standards. Proctored written exams are video recorded, as is the field skill demonstration and a percentage of both are reviewed for quality assurance.

Most BPI certifications have an expiration date of 3 years that can be renewed by completing 12 hours of related training either at a conference, through a webinar, or as Continuing Education Units (CEUs) available through BPI. Evidence of training will be verified before being credited toward the recertification requirement.

COMMITMENT TO PROFESSIONALISM AND QUALITY

PURPOSE

To ensure all staff and clients of the EnergySmart Academy (ESA) are aware of the Academy's commitment to Professionalism and Quality.

POLICY

ESA engages in a course of action that ensures we are always up-to-date regarding best practices, best tools and equipment and the latest teaching aids and techniques. We ensure that our facilities provide ample training space in a comfortable and safe environment that is conducive to learning. Our instructors have the necessary experience and credentials and have a demonstrated ability to train our clients. We promote professional growth of our instructors and staff and we ensure that our faculty and staff understand the importance of maintaining high levels of professionalism necessary in training.

PROCEDURE

ESA is committed to having a well-trained professional staff. In developing ESA, we worked with the New Mexico Mortgage Finance Authority (MFA) and a network of trainers to develop the job qualifications for our trainers. Our trainers have trained across the country with industry experts and bring their own considerable experience to the classroom and field.

Our trainers are given and are required to read school policies found online on my SFCC, the student information packet and the ESA Program Handbook. Each staff member, trainer and contract trainer signs an affidavit committing to reading and adhering to all school and ESA policies and procedures. Each trainer will meet minimum competency requirements established by the Director of the ESA and reviewed annually by the Assistant Vice President of the Office of Planning and Institutional Effectiveness (OPIE). Trainer performances will be observed and evaluated for professionalism and accuracy by the Director of ESA or another designated person. Additionally, ESA solicits feedback from agencies and the MFA to gather insight into the effectiveness and accuracy of the training.

The ESA has on-going reviews of program offerings. The training staff and management at ESA meet throughout the year. At these meetings, they analyze student feedback, student test results and assessments, staff observations and management observations to ensure the appropriateness of the manner in which the course was offered and received and to ensure goals of the course are met and are in alignment with the overall mission. Lastly, ESA subscribes to industry periodicals, training webinars and national training and policy committees to stay up-to-date on the newest best practices and policies.

Ultimately, the ESA is based on the success of our students. That success will be measured by the trainee's ability to perform to rubrics established by ESA covering all components of a relevant Job Task Analysis and pass the certification assessments as administered by ESA or the Building Performance Institute. It is the goal of ESA to be recognized nationally by its peers and the national weatherization workforce as a high-quality regional training center.

COMPETENCY REQUIREMENTS

All new trainers will submit a resume and meet the following minimum competency requirements:

- At least two years demonstrated experience in the specialty they will be teaching
- Hold at least one industry-recognized certification in the specialty they will be teaching
- Demonstrate experience performing peer-training
- Have a HS diploma or GED – Bachelor’s Degree preferred - from an accredited high school or university with majority of curriculum taught in English
- Demonstrate competency by co-teaching a class with an experienced instructor

All curriculum design personnel will submit a resume and meet the following minimum requirements:

- Provide examples of curricula personally developed that includes learning objectives and authentic assessments
- Show an understanding of appropriate instructional design for adult learners
- Have at least one year experience teaching adults
- Hold a minimum of a Bachelor degree

MANAGEMENT

At least once per fiscal year, this policy and the personnel competency requirements will be reviewed by the Director of the Training Center and the Assistant Vice President of the Office of Planning and Institutional Effectiveness. Please see the Procedural Review Listing for other annual review details.

ESA PROCEDURES AND GUIDELINES

All SFCC Policies must be followed by staff, faculty and students. In some cases where there is no existing SFCC policy, ESA has developed guidelines and procedures that are to be followed to be compliance with IREC accreditation standards. Guidelines concerning academic honesty, grading, attendance, use of personal electronic devices and accommodation for students with disabilities are outlined in each syllabus.

SYLLABI & CURRICULA

CLASSES OFFERED 2021-2022

Retrofit Installer Technician	BPI Building Science Principles	OSHA 10-hour for General Construction
Crew Leader	BPI Building Analyst	OSHA 30-hour for General Construction
Residential Energy Auditor	BPI Healthy Homes Evaluator	OSHA Fall Protection Training
Quality Control Inspector	Building Operator Certification	DOE Lead Safe Weatherization
Multi-Family QCI	Commercial Water Auditing	EPA Lead Certified Renovator
Subject-Intensive Courses	Water Efficiency Rating Score	COVID-19: Workplace Safety

APPROPRIATE STAFF/STUDENT RATIO



ESA limits class sizes to ensure students and faculty receive optimal teaching and learning conditions. Typical class size is 8-10 students per instructor. Field-based courses are only eight students per instructor, though these limits can be overridden with the utilization of a qualified classroom assistant or with the approval of the ESA Director.

CURRICULUM DEVELOPMENT PROCESSES & PROCEDURES

The ESA faculty and staff are committed to the continuous improvement of its courses. To ensure such improvement, they engage in the regular evaluation of their curricula, attend industry conferences and seminars to stay current in trends in the field and seek out new and more widely-accessible ways to present their material.

ENERGY SMART ACADEMY



Basic Building Science

This 2-day classroom training is aligned to the BPI Building Science Principles exam, allowing students who successfully complete the class to elect to take the BPI exam. This course is an excellent first step for those new to the field of weatherization, who need a basic understanding of building science. This class is highly recommended for those taking BPI exams. It is most suitable for students with the ability to read and write English. Because there is no field component to this class, the class maximum is 12 students. \$4,000 plus \$200 extra per student for exam and book.



Basic Pressure Diagnostics

This 2-day class for new hires and those who may want a refresher, will focus on basic blower door diagnostics, basic static pressure diagnostics and blower door guided air-sealing. Mixed classroom and field. Maximum 8 per class or 12 with two instructors. \$4,000 (1 instructor)

Requirements to host course: a house with a pitched roof or accessible crawl space that has not been weatherized.



Advanced Pressure Diagnostics

This 2-day class for Auditors and QCI covers infrared and blower door diagnostics, static pressure, heat flow and duct leakage. Mixed classroom and field. Maximum 8 per class or 12 with two instructors. Pre-req: After: Basic Pressure Diagnostics or BPI Energy Auditor or BPI QCI certification. \$4,000 (1 instructor)

Requirements to host course: a house with forced air.



Basic Combustion Testing

This 2-day class is for all weatherization crew and will cover basic combustion testing, including combustion theory, appliance identification, testing for spillage, carbon monoxide and draft. Mixed classroom and field. Maximum 8 per class or 12 with two instructors. \$4,000 (1 instructor)

Requirements to host course: a house with at least one vented combustion appliance, NFPA category 1.



Intermediate Combustion Testing

This 2-day class for all weatherization crew and will cover worst case degradation. Mixed classroom and field. Maximum 8 per class or 12 with two instructors. Pre-req: After: Basic Combustion Testing. \$4,000 (1 instructor)

Requirements to host course: a house with forced air gas furnace inside the pressure boundaries.



Advanced Combustion Analysis

This 2-day class for auditors looks beyond the boiler to fully assess a combustion appliance for health, performance and long term durability. Mixed classroom and field. Maximum 8 per class or 12 with two instructors. Pre-req: After: Intermediate Combustion Testing or BPI Energy Auditor or BPI QCI certification. \$4,000 (1 instructor)

Requirements to host course: a house with forced air gas furnace inside the pressure boundaries.



Air and Duct Sealing

This 2-day class covers basic air-sealing and duct sealing measures, materials and correct installation. Mixed classroom and field. Maximum 8 per class or 12 with two instructors. \$4,000

Requirements to host course: a house pre-weatherized with duct systems.



Insulation 1

This 2-day class covers insulation measures, including blowing insulation. Mixed classroom and field. Maximum 8 per class or 12 with two instructors. \$4,000

Requirements to host course: a house pre-weatherized that needs blown insulation as part of its measures.



Insulation 2

This 2-day class focuses on dense-packing walls and more complex insulation measures. Mixed classroom and field. Maximum 8 per class or 12 with two instructors. \$4,000

Requirements to host course: a house pre-weatherized that needs walls to be dense-packed.



Materials & Documentation

This 2-day class focuses on documentation of as-found conditions in a house with checklist and photos, appropriate selection of materials, correct application of materials and documentation alternatives. Testing of air-sealing measures will be included where applicable. Mixed classroom and field. Maximum 8 per class or 12 with two instructors. \$4,000 (1 instructor)

Requirements to host course: at least one house with access to the attic and gas appliances that have already been assessed.



Crew Leader

This 2-day course focuses on developing the skills necessary to be an effective crew leader. It focuses on crew management, organization, inventory control, safety, understanding work orders and quality control. Pre-req: After: All BPI field installer classes or BPI retrofit installer/technician certification. Maximum 8 per class. \$3,000 (1 instructor)



Quality Control Inspector Training & BPI Certification

Blended class. The online portion of the class is completed over several weeks before you come to the Santa Fe training center for three days of training and BPI written and field exams. The online portion is mostly short engaging videos with online discussions and instructor interaction. Via schedule classes each month - please call so we can schedule at your convenience. We highly recommend you have taken the Energy Auditor series of classes, although this is not required. \$995 plus \$950 BPI exam (per person)

CURRICULUM DEVELOPMENT PROCEDURE

Our curriculum is designed with best practices in mind. Initial curriculum development is the responsibility of the assigned trainer for each individual course. Trainers are provided with an existing DOE-approved Job Task Analysis (JTA), if one is relevant to the course and any additional pre-established standards. Trainers determine which learning objectives (LO) apply to the course based on DOE Core Competency Matrix. Those LOs are reviewed by the Program Director and by at least one other trainer. Assessments are then developed to correspond with each objective. Only after both LOs and assessments are established, does the trainer create lesson plans, presentations, speaker's notes, hand-outs, online videos and other materials based on national standards, sound instructional design and ESA's visual style. The intention is to create content that is related directly to the LOs and will result in successful assessments if followed carefully. Before implementing the curriculum, it is subject to peer-review by ESA staff. The course is then taught as a trial course. After this, the trainees will give feedback to the Director and trainer and any issues will be reviewed and changes made.

CURRICULUM MAINTENANCE PROCEDURE

Throughout the year, ESA staff reviews curricula either in-person or through online discussion to ensure they are current, germane and effective for student learning. When national, state or other standards change, curricula are adjusted to reflect those changes. This includes revising learning objectives, presentation materials, lesson plans, speaker's notes, hand-outs, online videos and any other course materials as needed. At the time of maintenance, existing student evaluations for the course are reviewed and constructive feedback is incorporated when possible. Minutes are recorded at curriculum maintenance meetings; online maintenance discussions and emails are saved.

INFORMATIONAL MATERIALS

Our website includes the following information for students: a description of the training, its content, process and fees; a reference to the relevant job task analysis and the skills or job for which the training prepares the student; and a list of training prerequisites (if any).

ONLINE COURSES

Online courses are housed in the SFCC Learning Management System CANVAS. This is accessible at <https://sfcc.instructure.com>.

EXAMINATIONS AND ASSESSMENT TOOLS

Given the size of the ESA training staff, examinations are developed by each course's lead trainer and subject-matter expert in accordance with outlined class objectives and established corresponding JTAs. (OSHA and EPA-certified health and safety courses have prescribed examinations and are not subject to ESA assessment.) These may be written questions, oral questions or field-based rubrics. Before implementation, examinations are reviewed by a second subject-matter expert and the Program Director, with a focus on sound assessment techniques.

Assessments are reviewed and updated as needed based on student and instructor feedback. In addition, when changes are made to the curriculum, the affected assessments also are reviewed and updated. Whenever an assessment is updated, the committee evaluates the assessment for fairness and difficulty. See Sample Rubric for scoring.

ASSESSMENT ADMINISTRATION PROCEDURE

Please refer to the ESA Instructions for Exam Proctors and Sample Rubric later in this handbook. The ESA Program processes and procedures for administration of course scoring, evaluations and appeals notification to students is 72 hours by Program Director, Amanda Hatherly, together with the course instructor.

ASSESSMENT APPEALS PROCEDURE

Please refer to the SFCC Student Grievance Policy for the college appeals policy/procedure. The ESA processes and procedures for appeals is 72 hours for student mediation and notification by Program Director Amanda Hatherly together with the course instructor.

ASSESSMENT MEETING PROCEDURE

Once evaluations are submitted at the end of each completed course, ESA procedure requires all instructors and the Program Director evaluate and implement improvements, at least annually or more often if warranted.

SURVEYS AND COURSE EVALUATIONS

The Program Director reviews all evaluations from students, faculty and instructors. Survey responses are used to improve courses and to gauge interest in additional course offerings. Confidentiality of survey responses are maintained in accordance with the ESA/SFCC Confidentiality Policy. In addition, course evaluations may be used for marketing, grant-writing and auditing purposes, with the signed approval of the student.

INSTRUCTOR ABSENCE AND TRAINING CONTINUITY

All instructors are required to keep detailed lesson plans and speaker's notes. In the event a trainer or online moderator cannot lead their scheduled course, it is the combined responsibility of the trainer and the Program Director to find a suitable and qualified replacement. If such a person cannot be found, the

training will be rescheduled at the earliest time a suitable instructor will be available. To create a pool of suitable instructors, the ESA requires each of its faculty and staff members to learn the courses of another instructor. For courses that require nationally certified trainers, such as OSHA trainings and EPA Lead RRP, a list of certified contractors is kept on file.

DOCUMENT CONTROL

SFCC maintains administrative record-keeping ability through BANNER, combined with administrative staff and faculty, ensuring that all student documents are in compliance with SFCC for all ESA courses. Instructors are expected to follow SFCC policies and procedures, maintaining confidentiality and accurate recordkeeping.

All curricula are reviewed on at least an annual basis with either an in-person or online discussion between instructor, the Program Director and, if possible, an outside reviewer. As documents are altered and approved, they are updated in a shared and secure Dropbox. Older versions are archived in the same location. All files are named with the date of the last changes to maintain the record of alterations. Minutes from curriculum meetings, if in-person, or email communications, if online, are saved as well.

FACILITIES REQUIREMENTS

The IREC Standard requires those receiving recognition as an “Accredited Training Program” have and maintain sufficient facilities in which to conduct their training programs. The ESA, together with SFCC, has created a state-of-the-art facility with both safety and trainee comfort in mind.

Off-site classroom facilities must meet the same standard as trainings taking place at SFCC. Adequate lighting, heating/cooling and space, a safe work environment, comfortable seating, bathroom facilities, handicap accessibility and presentation equipment must all be present at the off-site facility. All tools and materials required for the training must be available and in safe, working condition. All requirements, including specific location and materials, must be verified either by staff visit or video or photo submission, along with filling out an ESA Location Requirements form.

For field training facilities, the instructor will determine what requirements and amenities are necessary for the specified course and day of instruction. For example, when teaching Retrofit Installer Technician courses focusing on dense-pack insulation, a field site might require under insulated cavities, adequate



electrical load to support the insulation machine and adequate ventilation, but may not require comfortable seating or presentation equipment. Again, these requirements must be verified by staff visit or video or photo submission. Upon arrival at the location, instructors first do a Job Hazard Assessment, to ensure the safety of all participants of the course. At the end of instruction, the instructor will again review the site to ensure that it is left in clean and safe condition for any occupants.

TOOLS, EQUIPMENT AND HARDWARE

Each course outlines the proper use and safety measures for tools, equipment and hardware specific to that course learning objectives. All instructors are expected to inform students of processes and procedure guidelines for both the college and ESA operation.

ESA HANDS-ON LABORATORY

A critical component of many ESA classes, the state-of-the-art Hands-On Lab inside the Trades and Advanced Technologies Center (TATC) at SFCC contains a variety of educational and testing materials designed to provide experiential learning opportunities for students. The ESA Lab includes a full-size cabin for pressure diagnostics and combustion testing, insulation and air sealing props, a small House of Pressure and a portable Energy Wright House. The lab contains all of the testing equipment needed to fully understand field weatherization work including multiple blower doors, infrared cameras, combustion analyzers, duct blasters and insulation blowing machines, as well as a variety of basic and intermediate construction tools for energy retrofits. Instructors are encouraged to incorporate the Lab as an extension of and expansion on classroom instruction.



For our Multi-Family courses, the lab itself allows demonstration of the most common multifamily equipment for the southwest – individual residential unit HVAC and domestic hot water. From there, an equipment tour of the TATC and Central Plant, with a Building Operations Manager, allows students access to centralized equipment that might be found in larger multifamily buildings. This equipment includes a chiller, cooling tower, pumps 1-15hp, variable frequency drives, air-handling units, boilers, photovoltaic and solar thermal. We have added an exercise to the tour, which includes equipment identification and discussion. The ESA, Trades and Advanced Technology Center and Central Plant provide access to equipment that cannot likely be found at an individual multifamily building anywhere.

HEALTH AND SAFETY GUIDELINES

SFCC maintains health and safety policies and procedures which will be followed at all times. ESA instructors are expected to introduce students to ESA equipment safety procedures and SFCC on-campus health and safety procedures. Based upon these expectations, instructors will foster a safe work/training environment. In order to facilitate a safe environment, instructors may:

- 1) Postpone or discontinue training activities that involve an identified unsafe condition until the unsafe condition can be remedied.
- 2) Remove a student from a task or class for repeated violations of safe work practices. All related coursework may be marked zero or null.

Whenever an instructor utilizes either of these options, details regarding the unsafe condition, remedy (or proposed remedy) and other pertinent data will be included in the ESA Instructor's Report.



In the event an unsafe condition occurs, or is likely to occur, relating to any piece of training equipment, details about the cause (maintenance or other) will be included in the ESA Instructor's Report. Upon notification of an unsafe condition relating to equipment, the Program Director will schedule and document appropriate repairs or maintenance.

In order to stay current on safety procedures, all ESA Instructors who participate in IREC accredited courses will attend a yearly Safety Update. The yearly Safety Update will occur after a Safety Walkthrough conducted by an appropriately qualified OSHA-certified Trainer. The yearly Safety Update will include the results of the Safety Walkthrough and may be conducted in-person, by webinar, video, or conference call.

At least once per calendar year, a Safety Walkthrough will be conducted by an appropriately-qualified Environmental Health & Safety professional and a review of the ESA Safety Policy will be completed by a staff member. Any deficiencies, appropriate remedies and necessary changes will be reported to the Program Director. Changes will be communicated back to staff through the yearly Safety Update and/or Instructor Reviews.

INJURY PROCEDURES

In cases of life-threatening injury, 911 should be called first. For all other injuries during a training session, the SFCC Safety Officer will be notified immediately and SFCC policy will be followed. In an emergency, SFCC Emergency Procedures will be followed (see below). Additionally, details regarding the incident will be recorded and submitted to the Program Director within 24 hours. The Program Director will verify all information regarding the incident and coordinate any necessary actions with the SFCC Safety Officer. If the Program Director is not immediately available, then a designee, other than the instructor(s) of that class, may be assigned the above responsibilities.

SFCC EMERGENCY PROCEDURES

From the SFCC Student Handbook pp. 152-154

SAFETY AND EMERGENCY SERVICES

CAMPUS SAFETY

PHONE: 505-428-1224; cell 505-690-1477

LOCATION: Main Hallway, Room 101

SFCC does not maintain a college police force. Security and enforcement matters are left to officers of the appropriate law enforcement agencies. If you witness a situation where someone is at risk or believe that a law is being broken, first contact the police (911) and then contact security at 505-428-1224.

- SFCC's Lost and Found is located in the Campus Security Office in Room 101. Students can find lost articles that have been turned in. Items including phones, credit cards, wallets, jackets, assignments and flash drives have been turned into Campus Security in the past. Please help others by being aware of abandoned articles and turning them into Campus Security.
- If you have personal knowledge or have heard of any crime that has occurred on or off SFCC property, but would like to remain anonymous, please report the crime by filling out the Silent Witness Report Form on the public website at www.sfcc.edu. Enter "silent witness" in the JACK search box to locate the form.
- Call Campus Safety for urgent situations that are not life-threatening. While safety officers cannot administer medical assistance, Campus Safety in Room 101 can provide some privacy until medical assistance is available. When reporting an emergency, inform the official if the situation is not life-threatening.
- Campus Safety and Security Officers regularly patrol campus to observe, report and assist with matters related to your welfare. As in any public space, students and visitors are encouraged to be alert and attentive while in the campus parking lots.
- Security officers can escort students to the parking lot or to other areas on campus. To request an escort, contact the Campus Safety and Security Office at extension 1224 on the SFCC telephone network.

EMERGENCY PHONE TOWERS

Seven emergency phone towers are located on campus. When activated, these towers will connect you directly to an emergency operator. Stay at the tower and Campus Safety Officers will talk with you directly and dispatch emergency personnel to the scene.

- Kids Campus – Two emergency phone towers in front of the building
- Fitness Education Center – Two emergency phone towers in the parking lot
- Main Facility – One emergency phone tower on the walkway by the library; one emergency phone tower in the West Wing parking lot; one emergency phone tower in front of the main entrance.

LIFE-THREATENING ACCIDENTS AND EMERGENCIES

- Dial 9-911 on a campus-system phone, or immediately activate an emergency phone in cases such as unconsciousness, heart attack, severe bleeding, severe shock, head injuries, emergency childbirth, severe fractures, drowning, active shooter, and other emergency situations.
- After the appropriate emergency authority has been notified, call Campus Safety Officers to inform them of the situation.

FACILITY EMERGENCIES

- Dial 9-911 on a campus-system phone or activate an emergency phone for situations such as fire, bomb threats, active shooter or uncontained chemical spills.
- After you have informed the appropriate emergency authority, call Campus Safety Officers at 505-428-1224 to advise them of the situation. The college procedure for evacuation of buildings will immediately be set in motion.

OTHER MEDICAL EMERGENCIES

For urgent situations that are not emergencies (e.g. sprains, cuts, contusions, fatigue), call Campus Safety at 505-428-1224. Campus Safety will also dispense Band-Aids to individuals who request them.

EMERGENCY TELEPHONE NUMBERS (from on-campus phones)

- Ambulance, 9-911
- Campus Safety Office, extension 1224
- City police substation, 9-955-2080
- Fire and city police and sheriff, 9-911
- Poison control, 9-1-800-432-6866
- Sheriff, 9-428-3720
- State police, 9-827-9300
- SFCC's Weather Line 9-428-1716

PERSONAL SAFETY TIPS

- Stay in well-lit areas after dark.
- Walk to your vehicle with others or request an escort from a Campus Safety Officer.
- Keep your windows closed and your vehicle locked.
- Do not leave valuables in your vehicle or, if you must, place them out of sight.
- Report suspicious behavior to a Campus Safety Officer or any member of the staff.
- Report incidents that occur on campus to Campus Safety Officers who will work with local law enforcement agencies on prosecution.

WEATHER DELAYS OR CANCELLATIONS – abridged

- Cancellations and delays are rare, though they may be called under extreme circumstances. When there are no cancellations or delays, students are expected to report to their classes.
- SFCC makes every effort to get a notification out by 6 a.m. or as soon as possible.
- Check the www.sfcc.edu homepage, SFCC Facebook or Twitter or local news.
- Call the WeatherWatch Line at 505-428-1716 for up-to-date information on delays and cancellations.
- To get messages about college weather closings and delays sent directly to your cell phone or email account. Sign up at <https://www.getrave.com/login/sfcc>.
- If due to weather conditions you feel you are unable to make it safely to SFCC, you are responsible for making up any missed work and instructors are asked to be reasonable in handling individual needs.
- Bottom line: you make the final decision on whether to travel. Always use your best judgment.

SMOKING POLICY

No smoking or vaporizing is allowed inside any college building. Smoking is only allowed outside in the designated smoking areas. This includes e-cigarettes and similar devices of any kind. See Policy 4-20.



PROCEDURAL REVIEW LISTING



TIMING OF REVIEWS

ANNUAL

CONDUCTED BY

Job Descriptions	ESA Director / Asst VP OPIE*
Curriculum and Syllabi Relevance	ESA Director / Asst VP OPIE
Organizational Matrix	ESA Director / Asst VP OPIE
Instructor Performance	ESA Director / Asst VP OPIE
Student Evaluations	ESA Director / Asst VP OPIE
Course Assessments and Examinations	ESA Director / Asst VP OPIE
Competency Requirements	ESA Director / Asst VP OPIE

QUARTERLY OR ON-GOING

CONDUCTED BY

Curriculum Content and JTA Compliance	ESA Director
Student and Instructor Evaluations	ESA Director
Course Assessments and Examinations	ESA Director
Safety Practices	OSHA Certified Instructor

*Assistant Vice President of the Office of Planning and Institutional Effectiveness (OPIE)



ESA JTA/COURSE/INSTRUCTOR
EVALUATION FORM



Course Title: _____

Course Instructor: _____

Please help us improve the workshop by responding candidly to the following statements.

Scale Definition:

1-Strongly Disagree 2-Disagree 3-Neither Agree nor Disagree 4-Agree 5-Strongly Agree

Course objectives were well-communicated.	1	2	3	4	5
This training related closely to what I do at my job.	1	2	3	4	5
Adequate time was allotted for explanations and questions.	1	2	3	4	5
The training materials were well written.	1	2	3	4	5
The instructor was knowledgeable about the materials.	1	2	3	4	5
I know where to get assistance when I return to my job.	1	2	3	4	5
Overall the class was satisfactory	1	2	3	4	5

What did you like most about the class?

How can we improve the class?

Do you have any additional questions regarding this topic?

What other classes would you like us to offer?

May we use your comments anonymously for marketing purposes? (please circle one) Yes No

SAMPLE COURSE SYLLABUS:



Energy Auditor Online Syllabus



Instructor: Staff

Course Information:

Online – <https://sfcc.instructure.com>

Course Description

Energy Auditor is a self-paced, online course for new and experienced building performance professionals seeking to expand their skills and knowledge. The course helps candidates prepare for the Building Performance Institute's (BPI) Energy Auditor certification. This online course covers the Job Task Analysis for an Energy Auditor and prepares for both the written and field BPI exams. We do suggest a 4-8 hour in-person field prep prior to taking the BPI EA field exam.

Students use multiple technologies throughout the online course in order to enhance “soft-skills,” practice diagnostic and testing skills, and discuss current and emerging building performance topics with other industry professionals.

Course Objectives (see [NREL Single-Family Energy Auditor Job Task Analysis](#) for more details)

By the end of this course, students will be able to:

- Explain the concepts and importance of building science principles to the job of an energy auditor
- Recall important math equations needed by an energy auditor
- Evaluate and describe components of the home, including windows and doors, insulation, cooling systems, heating systems, and baseload
- Describe and demonstrate combustion testing for energy auditors
- Describe and demonstrate pressure diagnostic testing for energy auditors
- Use energy auditing software

Prerequisites

All Energy Auditor participants must submit their application for approval from the Building Performance Institute to qualify for certification testing *prior* to attending class. Approval is not needed to take this class, however.

Required Texts

[Building Science Principles Reference Guide, Second Edition.](#)

[Home Performance Diagnostics, Third Edition.](#) Online.

Expectations

1. Exhibit professional conduct, including complying with OSHA safety standards.
2. Attend all webinars and online class discussions.
3. Complete and submit all required assignments/exercises according to course deadlines.
4. Appropriate access to a computer, tablet or smart phone that can access the internet. You can use any internet browser to access this course. You will be watching videos so will need sufficient bandwidth to watch videos online.
5. Appropriate access to a camera or smart phone that can take digital photos and video that can be uploaded to the internet or emailed directly to your instructor.

6. This course uses the **Canvas Learning Management System** by Instructure. Once you have provided us with your email address, you will receive an email from Instructure that provides you access to the course. You will need to create a password. Please write it down somewhere so you don't forget it.
7. Use individual knowledge and skills to assist with group activities.
8. Once you access the course, you will find the first module walks you through the steps of using the online course. Please read carefully.
9. If you require any assistive technologies, please contact your instructor. Santa Fe Community College has a department dedicated to helping you with special accommodations.
10. Demonstrate ability to correctly perform specific specialized diagnostic tests.

Assignments

- Primary assessments will be conducted observation of online discussions, online assignments, quizzes and video submissions. This includes productive participation in question-and-answer sessions during weekly webinars, and online discussions included in each lesson.
- **Successful completion of each weekly "Step" requires attaining at least 70% of the available points.**

ESA and SFCC Policies/Procedures

[see Student Information Packet for SFCC and ESA policies: www.energysmartacademy.com]

Attendance: Students are required to complete all modules in order to pass each course offering for certification.

Academic Honesty: Students may not gain, or attempt to gain, academic advantage by misrepresenting their work or by interfering with the completion, submission, or evaluation of work. *[see SFCC policies on plagiarism in Student Handbook]*

Grading:

Students must achieve the follow to receive a passing grade/digital badge:

70% or above is required on each set of course discussions

70% or above is required on all quizzes

70% or above is required on all submission assignments (photo and/or video)

Students with Disabilities: If you have a disability for which you would be requesting accommodations by SFCC or the ESA program, please contact your instructor upon enrollment.

Resources

Weatherization TV: www.wxtvonline.org

Weatherization Assitance Program Technical Assistance: <https://nascsp.org/wap/waptac/>

SFCC Online Course Materials: <https://sfcc.instructure.com> (Note: Login requires userid & password)



EA – Fan Flow Test - Task Rubric



(JTA Domain 3 Task 4)

Assessment Criteria	1	2	3
1. Ability to properly set manometer for test.	Failed to set manometer to proper test mode, device, etc.	Properly set manometer for test after several attempts.	Properly set manometer for test on the first attempt.
2. Ability to connect pressure taps to appropriate locations.	Failed to connect pressure taps to appropriate locations.	Connect pressure taps to appropriate locations after several attempts.	Connect pressure taps to appropriate locations on first attempt.
3. Ability to accurately measure exhaust fan flow.	Failed to measure exhaust fan flow within +/-25%.	Measured exhaust fan flow within +/- 25%.	Measured exhaust fan flow within +/-10%.
4. Ability to determine Pass/Fail of the work. (given fan rating)	Failed to determine pass/fail accordingly.	Determined pass/fail accordingly after several attempts.	Determined pass/fail accordingly on the first attempt.

**Assessment Sheet
Task: Fan Flow Test**

**Proctor:
Date:**

Set Manometer								
Tap Locations								
Fan Flow Measurement								
Pass/Fail								

SAMPLE STUDENT COMPLIANCE FORM



ORIENTATION SFCC/ ESA STUDENT



DATE:

As a new ESA student, I hereby agree that I have read the SFCC Student Handbook. I fully understand student policies and procedures as my responsibility.

I am aware of information located on the SFCC online portal, JACK, that includes public documents of College Policies and Procedures, also available to ESA students.

Any questions regarding college processes and procedures can be referred to your course Instructor or Program Director: Amanda Hatherly (amanda.hatherly@sfcc.edu)

PRINT NAME

SIGNATURE

*All students are expected to comply with on-campus rules and regulations with a signed form distributed by Instructors with each course syllabus. All information is located in the SFCC Student Information Packet 2021-22 and online through mySFCC at <https://my.sfcc.edu>.



BUILDING SCIENCE SPECIALIST



The Building Science Specialist is an instructor or trainer responsible for developing curricula, maintaining courses and teaching classes at the EnergySmart Academy at Santa Fe Community College in Santa Fe, NM, USA. Using knowledge of construction, building science and adult learning principles, the Instructor/Trainer delivers a range of training courses, ensures SFCC classroom & on-site safety and incorporates the latest knowledge of BPI industry best practices.

This position reports directly to Program Director, Amanda Hatherly.

DUTIES AND RESPONSIBILITIES

Develop, maintain and implement both instructor led and distance learning training

Provide information, training and technical assistance to industry personnel

Develop appropriate Knowledge and Skills Assessment testing

Periodic proctoring of students

Develop, review, revise and implement curriculum

QUALIFICATIONS

Nationally-recognized industry certifications relevant to the instruction

OSHA and/or Safety training (OSHA 30-hour for General Construction)

Current first-aid and/or CPR skills

Minimum HS diploma or GED – Bachelor’s Degree preferred – from an accredited high school or university with majority of curriculum taught in English

5+ years construction related experience

2+ years adult education experience relevant to the instruction Able to lift up to 75lbs.

*ESA Job Descriptions are reviewed annually by Program Director, Amanda Hatherly



INSTRUCTIONS FOR EXAM PROCTORS



NOTE: The following instructions refer to non-certification bearing student exams/evaluations. All certification-bearing exams must be administered in accordance with the instructions published by the certification issuer (when issuer is not ESA or Santa Fe Community College).

General Pre-Exam:

- Ensure adequate and appropriate lighting of exam space.
- Verify appropriate climate conditions (temperature).
- All cell phones, or other portable electronic devices, must be off or silenced.
- Ensure clear pathways, at least 32 inches wide, when students need to be able to move around the room.
- Determine if students have requested additional time for exam, to have questions read aloud, or to have translation. Be prepared to make accommodations as required.
- If student has requested to have questions read aloud, or for translation, student will have to take written exam without additional students around to minimize distraction. Schedule his/her exam separately and coordinate with translator when necessary.

Exam/Evaluation Types:

1. Individual Knowledge Evaluation (written or oral)
2. Individual Skill Demonstration
3. Group Lab Project

Type 1: Individual Knowledge Evaluation (written or oral)

Prior to evaluation:

- Students should be spaced at least three feet from one another (whenever possible).
- Remind students of SFCC Student Code of Conduct Policy 2-1.
- Provide the following for each student:
 - appropriate calculator
 - pen or pencil
 - clean scrap paper
- (when applicable) Remind students that evaluation is open book and open note.
- Remind students of approved time limit for the particular evaluation.

During evaluation:

- Proctor should walk around the room and stand behind the students when possible or appropriate.
- Technical questions may not be answered during evaluation. However, the proctor may reread questions in an attempt to clarify what is being asked.
- Vocabulary question may not be answered during the evaluation.
- Notify students at the halfway point and again at 10, 5 and 1 minute(s).
- If time expires, stop the student(s) and grade accordingly ("0" for any incomplete portions).
- Students may leave the evaluation area one at a time during the exam. Ensure pathways are clear, at least 32 inches wide, throughout exam.
- Upon completion, students may leave the evaluation area.

Type 2: Individual Skill Demonstration

Prior to evaluation:

- Students should be spaced at appropriate intervals.
- Whenever possible, work surfaces should be at a comfortable height to minimize strain for all students.
- Remind students of SFCC Student Code of Conduct Policy 2-1.
- Provide each student with access to appropriate and inappropriate tools, materials and equipment.
- Remind students that evaluation is open book and open note.
- Remind students of approved time limit for the particular evaluation.

During evaluation:

- Proctor should walk around the room and stand behind the students when possible or appropriate.
- Technical questions may not be answered during evaluation.
- Notify students at the halfway point and again at 10, 5 and 1 minute(s).
- If time expires, stop the student(s) and grade accordingly ("0" for any incomplete portions).
- Students may leave the evaluation area one at a time during the exam. Ensure pathways are clear, at least 32 inches wide, throughout exam.
- Upon completion, students may leave the evaluation area.

Type 3: Group Lab Project

Prior to evaluation:

- Space groups at appropriate intervals to avoid distraction.
- Whenever possible, work surfaces should be at a comfortable height to minimize strain for all students.
- Remind students of the time limit for the particular project.
- Encourage students to work together and to use available materials and information.

During evaluation:

- Proctor should walk around the room and help groups stay on task.
- Technical questions may not be answered during evaluation.
- Notify students at the halfway point and again at 10, 5 and 1 minute(s).
- If time expires, stop the student(s) and grade accordingly ("0" for any incomplete portions).
- Students may leave the evaluation area one at a time during the exam. Ensure pathways are clear, at least 32 inches wide, throughout exam.
- Upon completion, students may leave the evaluation area.

After all Evaluations:

- Proctors are encouraged to answer generalized questions regarding the evaluation topics. However, specific questions may not be discussed.



2021-2022 ORGANIZATIONAL GOALS

In addition to maintaining our mission statement for the school year 2021-22, it is the goal of the EnergySmart Academy to do the following:

1. Continued improvement of all aspects of the training program, including training methodology, curricula and trainer professional development.
2. Review all coursework to minimize in-person content and maximize online learning resources.
3. Continue expanding national digital badging programs, particularly for Retrofit Installer Technician.
4. Maintain BPI continuing education credits for appropriate classes.
5. Maintain IREC accreditation for the four core weatherization certifications.

The EnergySmart Academy

6401 Richards Avenue, Santa Fe, NM 87508

www.energysmartacademy.com

Director, Amanda Hatherly

Office: 505-428-1805

amanda.hatherly@sfcc.edu



PROGRAM HANDBOOK



2021-2022



Santa Fe Community College | 6401 Richards Ave | Santa Fe, NM 87508 | 505-428-1000

I have reviewed and I understand all the policies and procedures for ESA at SFCC and I am instructor-trained for the IREC Standard.

I am aware that any questions or concerns about course delivery or student communications will be mediated through Program Director, Amanda Hatherly, email: amanda.hatherly@sfcc.edu

Instructor Signature

Date