

Weatherization - Building Services

Curriculum Guide

Program Description

In the Weatherization Program, students learn basic weatherization techniques in a simulated home environment which includes an attic, crawl space and a home interior. Students receive hands-on experience testing and calculating energy usage, structural air sealing, installing various forms of insulation and completing building repairs to ensure the customer's home is safe and functioning properly while optimizing building efficiency and performance. The highly interactive training requires a student to work safely at heights, in limited spaces and around environmental hazards.

Requirements:

- None

U.S. Department of Labor Occupational Profile:

Students who most closely match the occupational profile for a Insulation Installer are selected for enrollment.

- **Aptitude/Abilities:** Ability to work effectively under stress, carry out detailed written and oral instructions, task planning/organizing. Average learning ability, demonstrated ability to problem solve, compute dimensions, average finger and manual dexterity, average form perception, strong mechanical aptitude
- **Work Keys:** Reading/Locating Information/Applied Math – 3
- **CASAS Scaled Score:** Reading 216-225 & Math 226-235
- **Environment:** Loud, Dusty, Inclement Weather, Extremes in Temperature, Hazardous Materials, Confined spaces, Working at heights, Exposure to vermin
- **Physical Demands:** Medium to heavy, **must** be medically qualified to wear a respirator
- **Temperament:** Performs a variety of tasks, able to prioritize, ability to make good judgments and execute precision work

Instructors, program managers, and/or the referring counselor may recommend employability skills and elective classes based on the student's needs, abilities, interest and behaviors. Job Seeking Skills is required for all students anticipating to graduate from MCTI.

Certificate of Completion Programs (SOC code):

- Weatherization Installer (47-4099)

The Weatherization Program is a two-term program and students are expected to complete both terms and exit as a Weatherization Installer

Only students who demonstrate academic progress by maintaining a grade point average of 2.0 or better and good employability skills advance to the second term and certification level.

Required Courses for Certification

Students must demonstrate academic progress (satisfactory grade point average) and good employability skills to advance from term to term.

(First Term)

Course Number	Course Name	Credits
WE 100	Home Assessment and Safety	3
WE 105	Home System Improvements	3
WE 110	Weatherization Lab I	6

Weatherization Installer (Second Term)

Course Number	Course Name	Credits
WE 200	Air Sealing	3
WE 205	Insulation Installing	3
WE 210	Weatherization Lab II	5
WE 215	Work and Job Preparation	1

Course Descriptions

W 100: Home Assessment and Safety

This entry-level course focuses on the initial procedures/testing involved with a building audit and how they direct an installer's work. Students learn to work safely by following MIOSHA standards to protect themselves and the occupants of a home. Students develop customer service and employability skills throughout the course. **Topics Covered:** Diagnostic tests and equipment, base load measurement, MIOSHA safe work practices, customer service skills, employability skills

W 105: Home System Improvements

This course is designed for individuals who are preparing for entry-level positions in the weatherization field. The course focuses on preparing the student to remove, install, and adjust appliances or home system devices in order to make a home more energy efficient. Students learn to use knowledge gained to educate the homeowner on home safety and energy efficiency devices. Students continue to develop and practice customer service and employability skills. **Topics Covered:** Improvement systems, HVAC and water heating systems, home safety devices, energy efficient appliances and devices

W 110: Weatherization Lab I

This lab is designed for students preparing to work as a Weatherization Installer. The highly-interactive lab focuses on building proficiency in removing, installing and/or adjusting appliances or home system devices to make a home more energy efficient. Students work in a simulated home environment to complete work orders. Emphasis is placed on applying employability and customer service skills, working safely and answering customer questions. **Topics Covered:** Tasks demonstrated in the Home Assessment and Safety and Home Systems Improvement class.

W 200: Air Sealing

This course is designed for individuals who have the basic knowledge and skills related to home assessment and energy improvements. It focuses on identifying common infiltration points in a home, determining how to reduce energy loss, and doing the work needed to seal the bypasses. Major tasks include air sealing and weather stripping. Emphasis is placed on customer service, employability skills and working safely. **Topics Covered:** Air Sealing locations, materials and tools, vapor barriers, structural defects, weather stripping locations and materials, energy saving improvements to windows, doors, attics, other miscellaneous infiltration points

W 205: Insulation Installer

This course is designed for individuals who already have the basic knowledge and skills related to home assessment and energy improvements. Students learn to determine when to use different forms of insulation throughout a home structure, estimate the amount of insulation needed, prepare the space for insulation, and then use various techniques to install the insulation. Emphasis is placed on customer service skills, employability skills, and working safely. **Topics Covered:** Insulation types, preparation, insulation type per job, estimating, installation techniques

W 210: Weatherization Lab II

This lab is designed for students who are preparing to work as a Weatherization Installer and already have the basic knowledge and skills related to home assessment and energy improvements. The highly-interactive lab continue to build proficiency in removing, installing and/or adjusting appliances or home system devices in order to make a home more energy efficient. Students also build proficiency by performing tasks related to air sealing, weather stripping, and insulation installation. Students work in a simulated home environment to complete work orders. Emphasis is placed on applying employability and customer service skills, working safely and answering customer questions. **Topics Covered:** Tasks practiced in the Home Assessment and Safety and Home Systems Improvement classes. Tasks demonstrated in the Air Sealing and Insulation Installing classes.

W 220: Job and Work Preparation

This course introduces students to placement services and resources available while on-campus and off-campus to help obtain successful employment and to help make the transition from school to work. During this course, students participate in a variety of job preparation activities, prepare a personal portfolio that highlights their skills, abilities and achievements and work on eliminating any barriers that may interfere with obtaining and/or retaining employment. **Topics Covered:** Job Seeking Techniques, resumes, references, cover letters, thank you letters, interview and presentation skills, personal portfolios