WHOLE HOME REPAIR PROGRAM

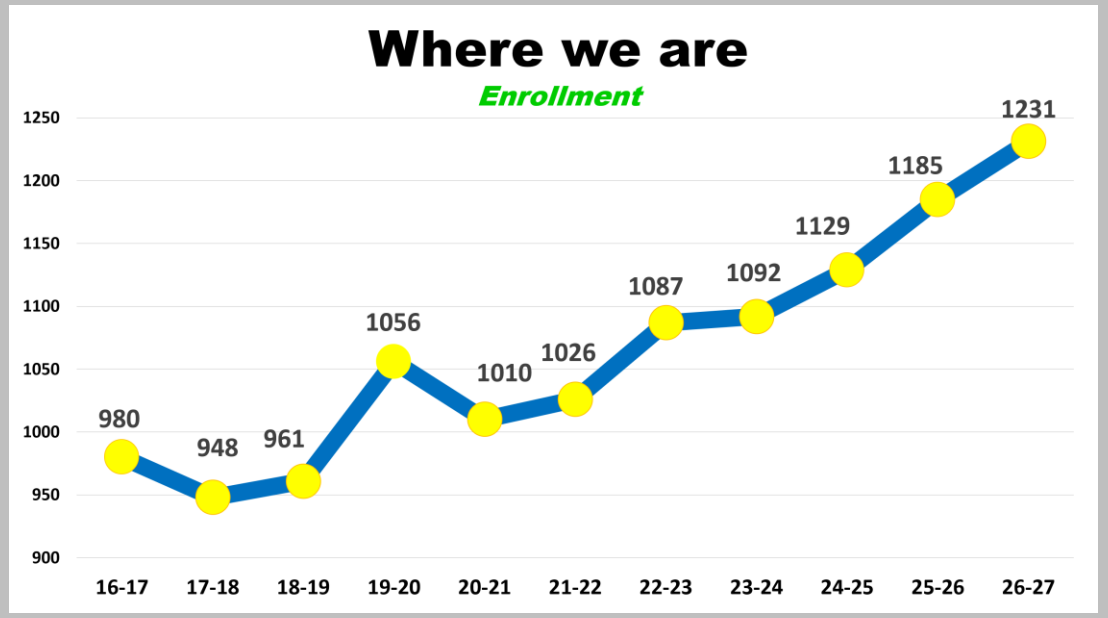
Workforce Development Through Career & Technical Education

Monroe Career and Technical Institute (MCTI)

Fall 2023 – Fall 2026

MCTI Operation Overview

- Providing quality Career and Technical Education since 1972
- High School
  - Serve all 4 districts in Monroe County
  - 28 Career and Technical Programs
  - 100% seniors graduate with industry recognized cert
- Adult Education
  - Offering 30+ Programs
    - Ranging from career pathways to enrichment
    - Each program offers industry recognized certs
      - OSHA 10, EPA 608+609, AWS, ASE, PA Safety & Emissions, ServSafe, NHA, PTCB, CNA, and more
    - Classes offered after 5pm Monday thru Thursday, occasional Saturdays
  - Approximately 1000 adults take classes each year
  - Partner with DCED/Monroe County Housing Authority, Monroe and Pike County Workforce Development, OVR



Whole Home Repair Program Overview

- Designed to build a skilled workforce for residential construction, repair, renovation, weatherization, and building systems.
    - 250+ hours of training in Carpentry, Plumbing, Electrical, and HVAC
        - Breakdown per class…
- Hands-on career training combines classroom instruction, safety, tools, materials, troubleshooting, and practical applications.
- Students develop foundational skills that can lead to employment, further training, apprenticeships, and continued career growth.
- Program delivered at Monroe Career and Technical Institute from Fall 2023 through Fall 2026.

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Whole Home Repair Program Budget

- Total Budget: $938,252.73
  - Tuition, Material, and Textbooks
    - $752,882.00
  - Instructor Wages
    - $145,866.00
  - Equipment
    - $35,253.23
      - Student Tool Kits
      - Drills, Circular Saws, Compound Mitre Saws, Coping Saw
      - HVAC Combustion Analyzer, Anemometer, Flaring/Swaging/Cutting Kits, AC System
      - Hot Water Heaters, Pressure Switch
      - Air Compressor and Shop Vacs

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The Waiting List

720 People

Whole Home Repair Program Statistics

- Enrollment
  - Carpentry Level I and II
    - 133 Students
  - Electrical I and II
    - 258 Students
  - Plumbing I and II
    - 115 Students
  - HVAC
    - 143 Students
  - Heating Systems
    - 24 Students
  - Completion of Entire Whole Home Repair Program
    - 36 Students
  - 1054 individual classes provided

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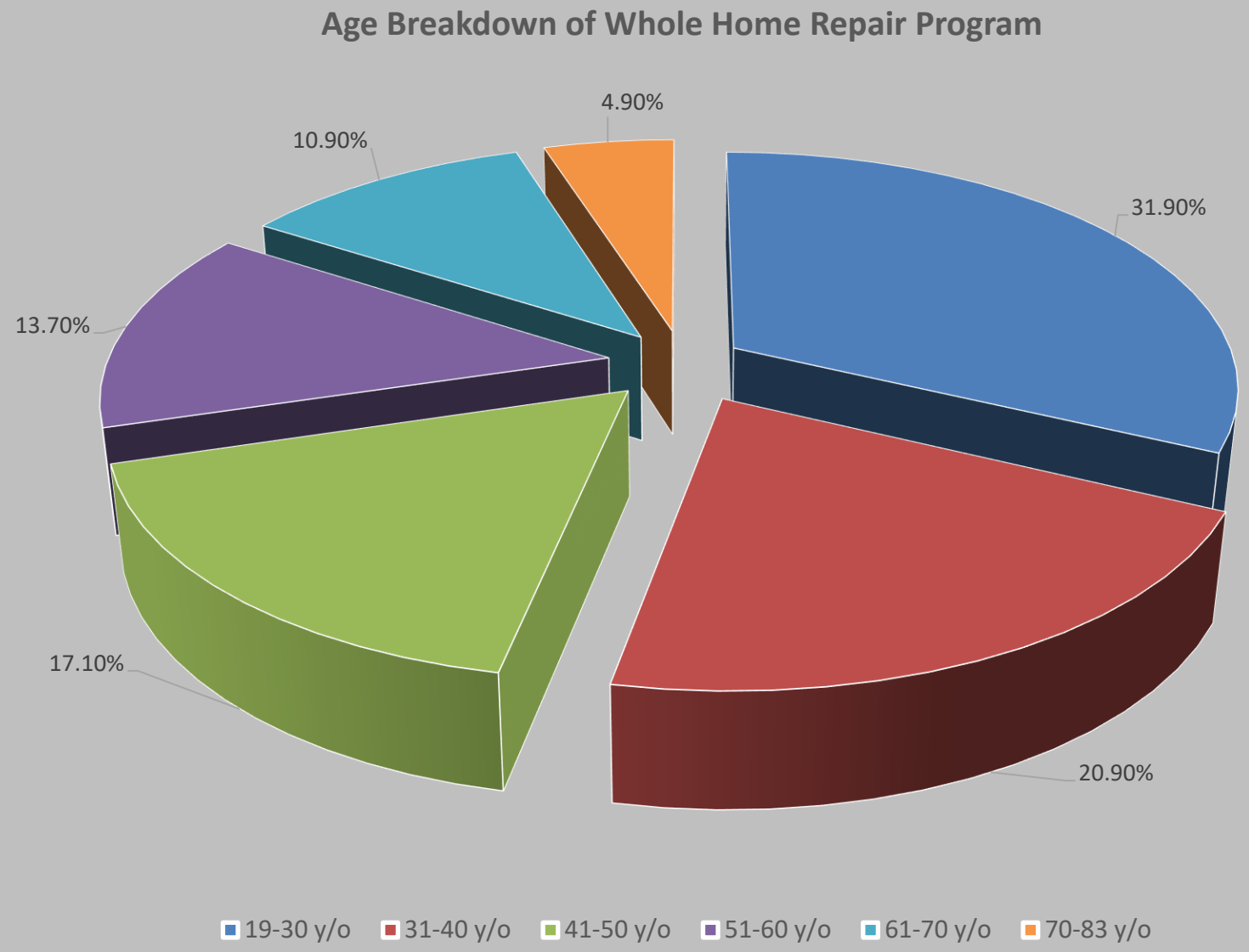
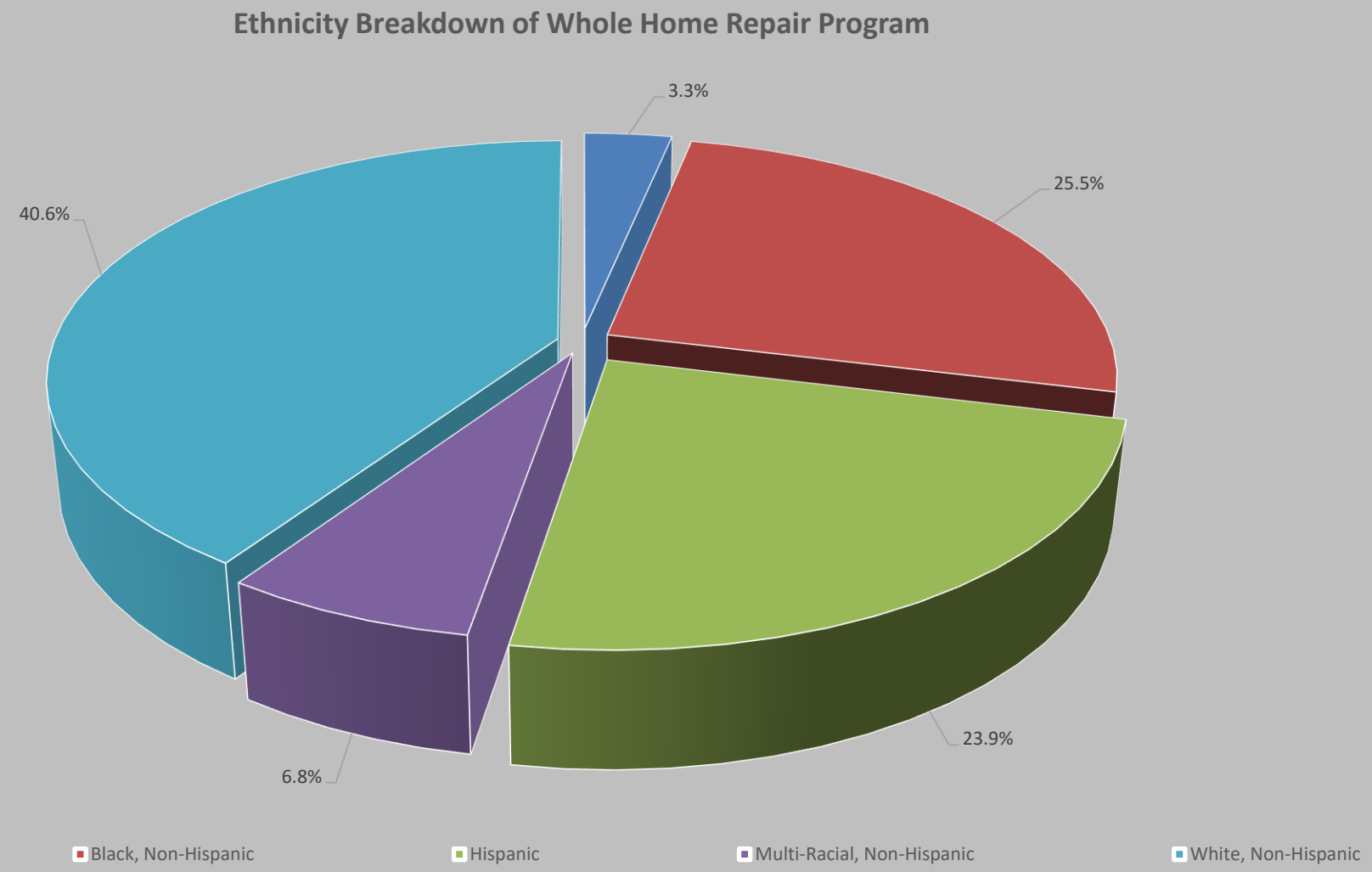
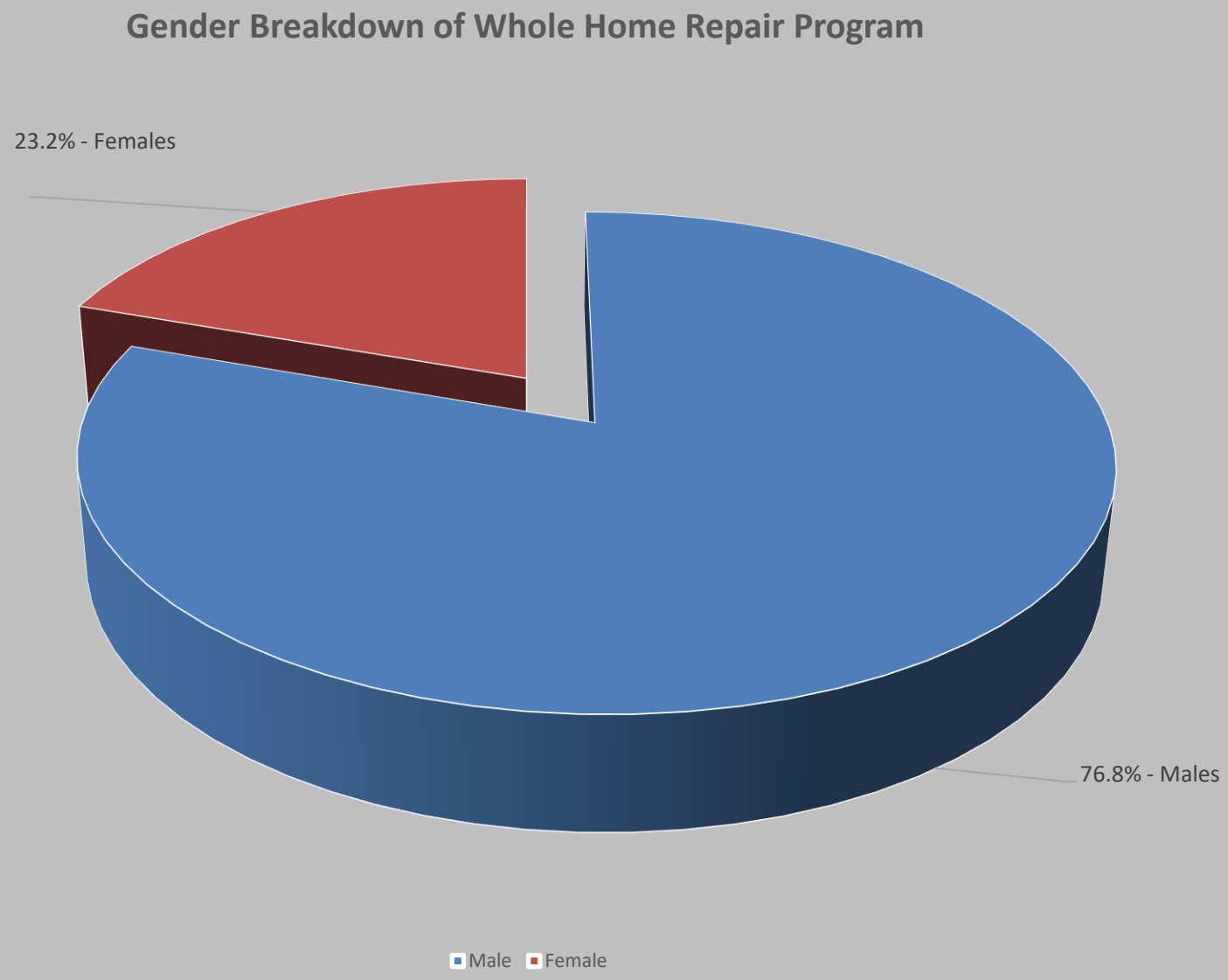
Whole Home Repair Program Statistics



Whole Home Repair Program Statistics



Whole Home Repair Program Statistics



Five Areas of Workforce Training

CARPENTRY

Building, framing, finishes, renovation and repair

PLUMBING

Water, drainage, fixtures, piping and troubleshooting

ELECTRICAL

Wiring, devices, controls, circuits and troubleshooting

HVAC

Refrigeration, electrical components, equipment and service

HEATING SYSTEMS

Hot water, oil, steam and gas heating systems

Carpentry — Level 1 & Level 2

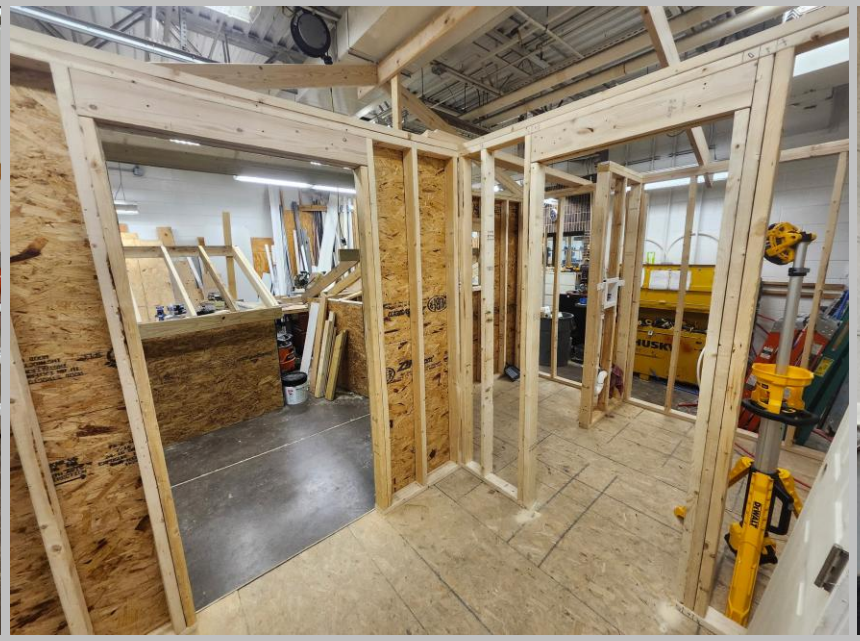
LEVEL 1

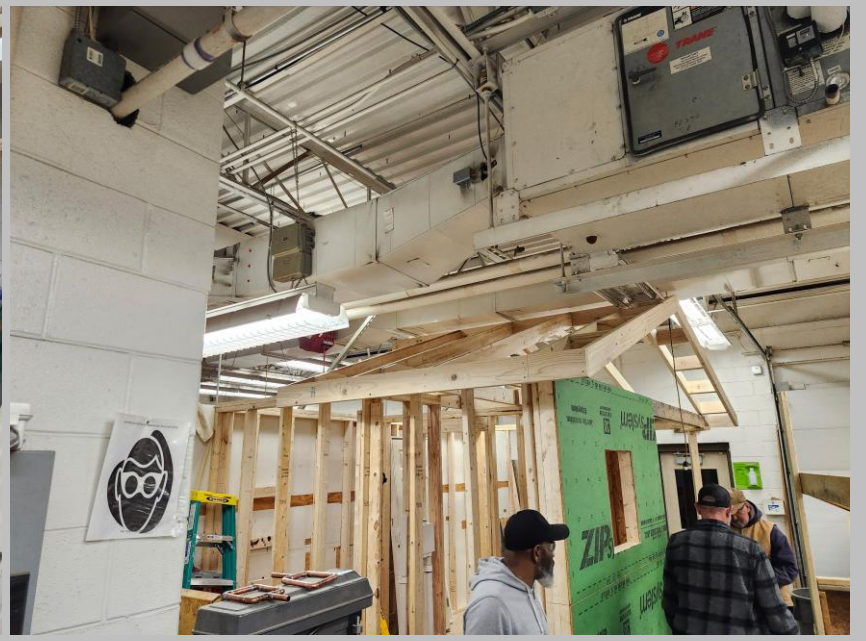
Blueprint reading • Construction math & measurements • Safety • Hand & power tools • Building materials • Floor, wall & ceiling framing • Interior/exterior doors & windows • Insulation

LEVEL 2

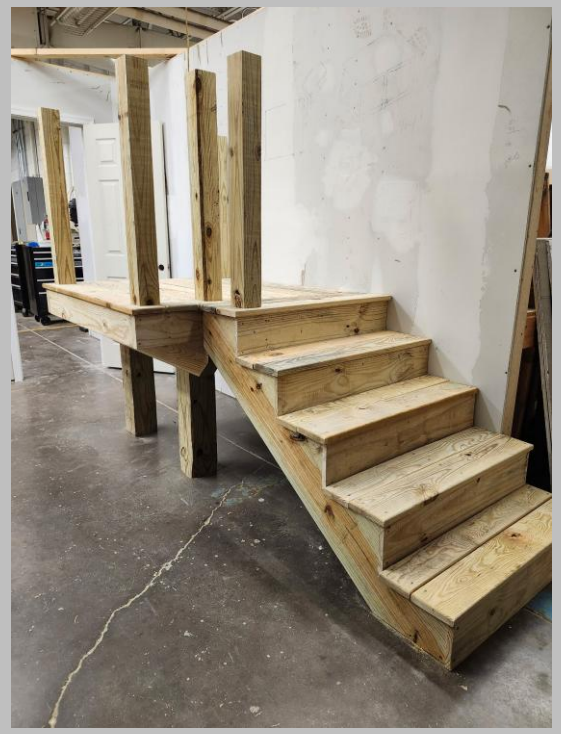
Plans, specifications & codes • Building layouts • Stair construction • Exterior finishes • Roof construction • Sheetrock & spackle • Interior/exterior finish work • Scaffolds, ladders & rigging • Decks & porches • Renovating & repairing

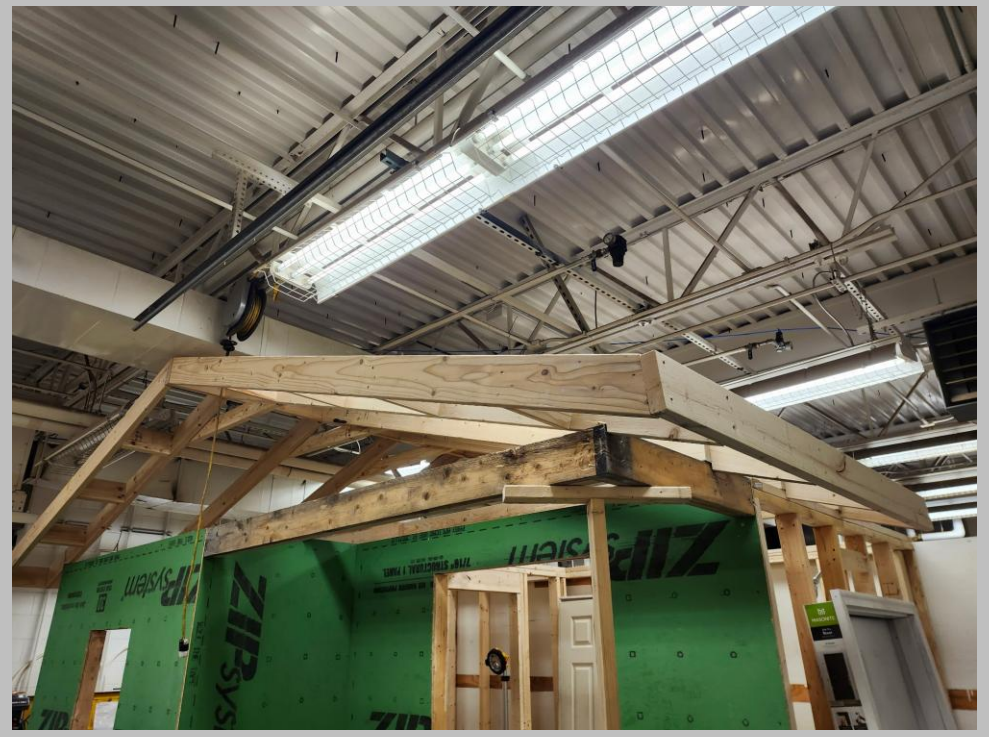
Carpentry — Level 1 & Level 2





Carpentry — Level 1 & Level 2





Carpentry — Level 1 & Level 2

Plumbing — Level 1 & Level 2

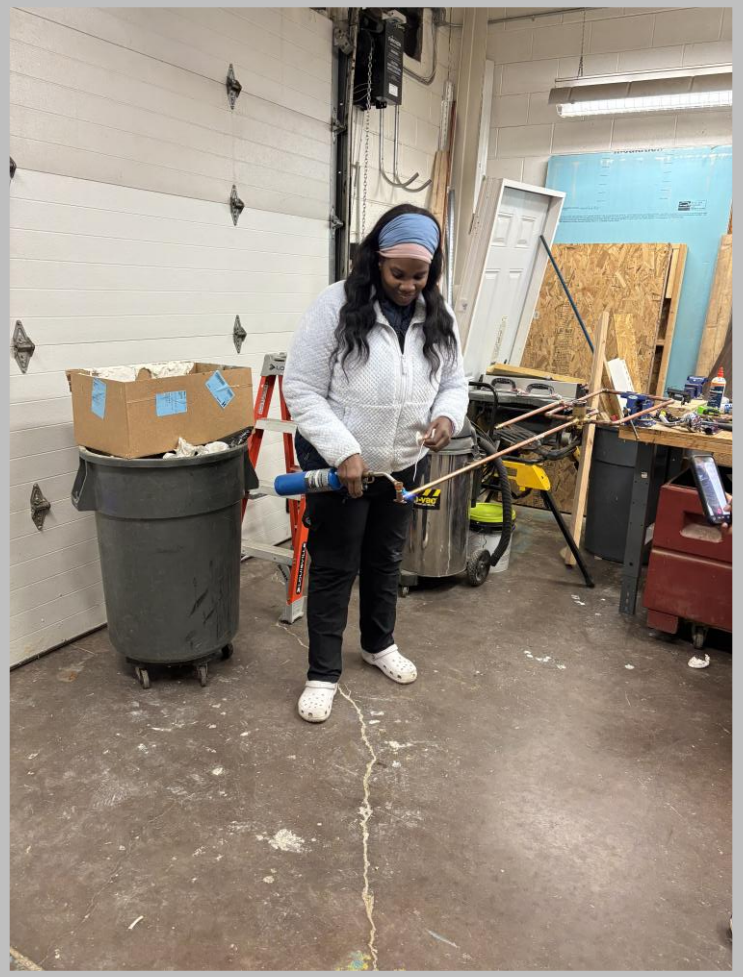
LEVEL 1

Blueprint reading • Plumbing math • Safety • Hand & power tools • Types of pipes & fittings • Valves & devices • Fixtures

LEVEL 2

Faucets & drains • Appliances • Material layout • Water service installation • Water distribution • Drain & vent sizing/installation • Troubleshooting

Plumbing — Level 1 & Level 2



Plumbing — Level 1 & Level 2

Electrical — Level 1 & Level 2

LEVEL 1

Safety & electrical theory • Wire stripping & receptacle connections • Single-pole switching & lighting • Three-way & four-way switching • GFCI & switched outlets • Range & dryer outlets • Material review

LEVEL 2

Baseboard heat & thermostats • Breaker installation • Extension cord plug ends • Doorbells • Ceiling fans • Digital multimeter • Circuit troubleshooting • Material review

Electrical — Level 1 & Level 2

Electrical — Level 1 & Level 2

HVAC — Service, Systems & Refrigeration

- Introduction to HVAC, shop safety, best practices and Ohm’s Law
- Understanding the refrigeration cycle; service gauges and testers
- Evacuation, equipment identification, electrical measurement and testing
- Copper tubing: bending, cutting and brazing
- Electrical schematics and identification of refrigerants
- Refrigerant recovery and EPA 608 examination preparation

Heating Systems — Four Major Areas

HOT WATER

Boilers & controls • Heat transfer • Pumps • Air control • Piping • Zoning • Hydronic radiant systems • Temperature controls • Troubleshooting

OIL HEATING

Fuel characteristics • Burners & accessories • Tanks & piping • Ignition • Controls • Start-up • Combustion efficiency • Troubleshooting

STEAM HEATING

One- & two-pipe systems • Steam traps & specialties • Piping practices • Controls • Boilers • Start-up & operation • Troubleshooting

GAS HEATING

Combustion chemistry • Fuels • Burners • LP installation • Controls • Ignition systems • Maintenance • Condensing furnaces • Troubleshooting

Heating Ventilation and Air Conditioning

Heating Ventilation and Air Conditioning

Skills That Transfer to the Workplace

- Workplace safety and safe use of tools and equipment
- Reading blueprints, plans, specifications, schematics and measurements
- Understanding materials, equipment, codes, procedures and best practices
- Construction, installation, repair, renovation and maintenance
- Troubleshooting and problem-solving across multiple building systems
- Hands-on experience that connects technical instruction to real-world applications

Building a Workforce — Building a Starter Toolkit

- Students who successfully complete the program will receive basic tools to help them begin their careers.
- Starter toolkit includes a carpenter’s pouch, work belt, chalk reel, self-locking tape measure, retractable knife, speed square, framing hammer and various other hand tools.
- The toolkit helps students transition from training to employment with essential equipment in hand.
- Providing tools reinforces the program’s focus on practical skills, employability and career readiness.

From Training to Career

1

LEARN

Technical knowledge, safety and fundamentals

2

PRACTICE

Hands-on application with tools and materials

3

TROUBLESHOOT

Diagnose problems and develop solutions

4

PREPARE

Build confidence, skills and job readiness

5

LAUNCH

Enter the workforce or continue technical training

Why Workforce Development

- Closing the Skills and Labor Gap
- 5:2 Replacement Ratio
- Aging workforce
  - One-in-four trade workers is age 55+
  - 22-41% of Construction and Electrical workers will retire by 2031
  - Retirement accounts for 40% of openings each year
- Estimated deficit
  - 7 million trade jobs by 2035

THE IMPACT

SKILLED WORKERS

Developing talent in the trades needed to build, maintain and repair homes and communities.

CAREER READINESS

Students leave with practical skills, technical knowledge and essential starter tools.

COMMUNITY INVESTMENT

Workforce development strengthens the local skilled-trades pipeline and supports housing needs.

A Foundation for the Future

- The Whole Home Repair Program brought multiple skilled trades together in one workforce-development pathway.
- Students gained foundational and advanced skills in carpentry, plumbing, electrical, HVAC and heating systems.
- Training emphasized safety, hands-on learning, troubleshooting and real-world applications.
- By combining technical education with career readiness and starter tools, MCTI helped prepare students to take their next step into the skilled trades.

Employment

HAYDEN POWER GROUP

PATRIOT OUTDOOR SOLUTIONS

R. SNYDER'S HOME IMPROVEMENTS
Where no job is too small!

Hartman Electric Inc.

r.j. Groner Inc.
This Time Do It Right
Heating • Cooling • Plumbing

INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS
IBEW
Local 102

POCONO HOME IMPROVEMENT
NO JOB TOO BIG OR TOO SMALL

PRO-TECH ELECTRIC INC.
COMMERCIAL • INDUSTRIAL • RESIDENTIAL

CAMELBACK RESORT

KMB
PLUMBING ELECTRICAL & HVAC

BUILDING SKILLS.
BUILDING CAREERS.

BUILDING A STRONGER COMMUNITY.

Monroe Career and Technical Institute

Whole Home Repair Program

Fall 2023 – Fall 2026

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