Air Conditioning, Heating, and Refrigeration Technical Standards

Criteria: Critical thinking and/problem solving
Standard:

A) Ability to raise important questions, analyze problems and develop solutions, demonstrate the ability to reason and understand the consequences of one's actions.
   1) Example: Apply information, evaluate the meaning of observed system operation and engage in critical thinking in the classroom and lab setting.
   2) Example: Apply broad class concepts to unique customer situations.
   3) Example: Perform system tests and analyze results to make decisions in the often rushed field environment where other calls await your arrival.
   4) Example: Recognize when assistance is needed and make the call for back up when necessary.
   5) Example: Respond appropriately to constructive feedback.
   6) Example: Make decisions based on industry supported training materials to ensure long equipment life and system efficiency – during service and installation procedures.

Criteria: Communication
Standard:

A) Appropriate interpersonal interaction with other students, faculty, staff, customers, facility owners, dispatchers and other technicians.
   1) Example: Establish and maintain a professional relationship with customers and coworkers.
   2) Example: Explain services and system needs, document technicians' actions.
   3) Example: Convey information in a clear, professional and timely manner.
   4) Example: Listen and respond to others in an accepting and respectful manner.

B) Communicate and comprehend oral and written information pertaining to heating, ventilation, air conditioning, and refrigeration.
   1) Example: Interpret and use written information in common job formats, such as tables, charts, and reference materials and manuals.

Criteria: Motor Skills
Standard:

A) Sufficient motor function to execute movements required to install and service HVACR systems.
   1) Example: Participate during HVACR system installation and service; for example, carry a refrigeration compressor to a rooftop system by climbing an extension ladder.
   2) Example: Operate necessary tools, equipment, and machinery.
   3) Example: Remove and replace failed components.

B) Sufficient physical endurance to work in extreme thermal environments (hot/cold), in tight spaces and on elevated structures.
   1) Example: Participate fully during live project and lab setting including extended periods of standing, lifting heavy equipment and crawling as is reflective of the general day to day activities of a HVACR service/installation technician. (As found in crawl spaces, attics, utility rooms, basements, equipment rooms).
   2) Example: Position and maneuver in confined spaces to do repairs.

Criteria: Professional Conduct
Standard:

A) Function effectively and efficiently during demanding seasonal workload periods.
B) Assess implications of cultural and religious diversity for classroom and workplace relationships.
   1) Example: Maintain an understanding and effective relationships with customers, colleagues, faculty, staff and other industry professionals.
   2) Example: Devises solutions to problems arising from gender, cultural, racial, and religious diversity.
C) Demonstrate attitudes conducive to workplace success.
   1) Example: Refrain from using improper grammar, profane or inappropriate communications.
   2) Example: Assesses the potential impact of an individual's work ethic on an organizational system.
D) Incorporate professional standards of practice into all activities.
   1) Example: Work effectively with a team in an academic or live project setting.
E) Demonstrate integrity and accountability during field work and academic setting.
   1) Example: Complete all assignments in a timely manner.
   2) Example: Respond appropriately to constructive feedback provided by fellow students, faculty, staff, and customers.
   3) Example: Wear appropriate clothing that is not distracting or offensive when in the learning environment.
F) Present self in a professional manner during field projects and academic settings.
   1) Example: Modifies behavior to increase productivity in the classroom, laboratory and workplace.
G) Utilize computers correctly, effectively and professionally to acquire information and to communicate with others.
   1) Example: Utilize the internet to collect current information from appropriate resources to use during installation, service, and repair of HVACR systems.

Criteria: Sensory
Standard:

A) Hearing is sufficient to assess equipment needs.
   1) Example: Hear unusual equipment noise; recognize dangerous situations of falling equipment/tools when working on overhead systems.
B) Vision is sufficient for assessment necessary to service, install and maintain HVACR equipment.
   1) Example: Accurately read diagrams in low-light situations; small print – color coded wiring.
   2) Example: Accurately interpret non-verbal communications when working at a distance from others such as during equipment placement by crane.
C) Smell offensive odors and identify source.
   1) Example: Recognize smells resulting from improper HVACR operation such as – damp ducting/insulation, wiring burning, motor overheating, IAQ issues, improper furnace operations/venting, natural and LP gas leakage, fuel oil smells from oil equipment.

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