

Technical Standards for Economic Workforce Development: Electrical Installation and Troubleshooting

Our program technical standards have been developed to help students understand nonacademic standards, skills, and performance requirements expected of a student in order to complete this particular curriculum.

If an accommodation is necessary to participate in the program, it is imperative to identify a reasonable accommodation to those students who qualify under the Americans with Disabilities Act (ADA). Reasonableness is determined by [Accessibility Resources](#) and the program on a case-by-case basis utilizing the program technical standards. The accommodation needs to be in place prior to the start of the program, or it may delay your ability to start the program. It is the student's responsibility to contact [Accessibility Resources](#) and request accommodations.

SKILLS	DESCRIPTION	SPECIFIC EXAMPLES
MOTOR SKILLS	Students must possess physical strength, flexibility, and dexterity to safely perform the duties of an electrician.	Physical abilities sufficient to perform skills in a hot (90+ degree) and cold environment. Physical ability sufficient to work at heights or under structures while carrying tools and equipment. Physical ability to use various hand tools. Be able to climb ladders up to 24' in height while carrying tools and equipment. Sufficient motor function to execute hand movements required to operate tools and equipment. This requires manual dexterity while using Personal Protective Equipment such as safety glasses, gloves, and shockproof clothing. Physical

SKILLS	DESCRIPTION	SPECIFIC EXAMPLES
		ability to coordinate two or more limbs (two arms, two legs or one arm and one leg) while sitting, standing, or lying down. Weight bearing ability sufficient enough to lift and carry weight up to 50 pounds and install equipment overhead.
VISION	Vision sufficient enough to perform duties of an electrician.	Ability to identify equipment preventive and maintenance needs and perform maintenance and preventive services. Ability to determine appropriate tools needed to repair and maintain systems and equipment. Visual skills sufficient to distinguish all primary colors. Visual skills sufficient to see details at close range and to perceive safe distances/depths. Have sufficient visual capacity to read prints, schematics, meters, and testers.
HEARING	Hearing abilities sufficient to perform the duties of an electrician.	Sufficient auditory skills to hear tones of various pitches emitted by testers and meters despite peripheral/background noise such as trucks, equipment, or machinery. Sufficient auditory skills to hear equipment running/operating to determine efficiency of operation.

SKILLS	DESCRIPTION	SPECIFIC EXAMPLES
TECHNOLOGICAL	Must have technical ability to use electronic meters and testing equipment. Basic knowledge of the computer.	Must be able to read and interpret printed wiring diagrams, meters, and electrical instruments. Must be able to read prints, schematics, meters and testing equipment for both AC and DC drawings. Must be able to check email and create/edit basic documents.
COMMUNICATION	The ability to convey information effectively and efficiently in class or lab settings.	Must be able to listen and communicate effectively with the instructor and other students. Must be able to understand/interpret information from textbooks, handouts, diagrams, charts and tables. Must be able to use written and oral communication to demonstrate comprehension of electrical concepts, as well as possess the ability to use and understand hand signals. Must recognize and be able to use electrical terminology.
CRITICAL THINKING/ PROBLEM SOLVING	Students must be able to use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems. Must be attentive in the classroom, observe demonstrations and participate in lab	Ability to determine the steps necessary to troubleshoot issues and outages. Ability to assess causes of equipment malfunctions and solutions. Ability to identify equipment preventive and maintenance needs and perform maintenance and preventive services. Ability to determine appropriate tool needed to repair equipment and

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	exercises. Must be able to recognize when there is a problem or possible problem.	electrical systems. Must be able to read and interpret wiring diagrams, meters, gauges, and electrical instruments.
INTERPERSONAL SKILLS	Students must have sufficient personal skills for successful interactions with customers, colleagues, supervisors, and students from a variety of social, emotional, cultural, and intellectual backgrounds. Must possess emotional wellbeing and intellectual abilities to complete all projects and responsibilities in the classroom. Student will be expected to learn and apply workplace responsibilities.	Must be able to work cooperatively with partners and groups. Interpersonal abilities sufficient to interact with co-workers under physically and mentally demanding environmental conditions. Be careful about detail and thoroughness in completing work tasks. Exercise good judgment. Follow safety procedures. Maintain composure, keep emotions in check, control anger, and avoid aggressive behavior, even in difficult situations. Must not have a debilitating fear of heights, insects, spiders, snakes, or lizards.
ENVIRONMENTAL TOLERANCE	Must be able to work in an industrial or construction environment	Must be able to work effectively in confined spaces such as under structures as well as heights exceeding 24'. Must be able to tolerate extreme heat and cold. Must be able to tolerate exposure to noxious chemical compounds including but not limited to acids, acid-like chemicals, solvents, glues, cleaners, oils and refrigerants. Must be able

SKILLS	DESCRIPTION	SPECIFIC EXAMPLES
		to wear hard hats, safety glasses, safety equipment and PPE as required by the industry.

This document is intended to serve as a guide regarding the physical, emotional, intellectual, and psychosocial expectations placed on a student. This document cannot include every conceivable action, task, ability, or behavior that may be expected of a student. Meeting these technical standards does not guarantee employment in this field upon graduation. Ability to meet the program’s technical standards does not guarantee a student’s eligibility for any licensure, certification exam, or successful completion of the degree program.

Reference: These Technical Standards are adapted from Southern Piedmont Community College Technical Standards. Modifications have been made to meet Forsyth Tech specific program needs.