

Technical Standards: Electrical Systems Technology - Electrical Track

All Students in this program are expected to meet certain essential functions/technical standards which are essential for successful completion of all phases of the program and which reflect industry requirements and standards. To verify the students' ability to perform these essential functions, students may be required to demonstrate the following technical standards:

Standard	Definition of Standard	Example(s) of Technical Standard
CRITICAL THINKING SKILLS	<ul style="list-style-type: none"> • Ability to use judgement and problem-solve • Ability to measure, calculate, reason, analyze, synthesize, and integrate information and solve problems • Ability to apply ethical standards 	<ul style="list-style-type: none"> • Ability to make meaningful cognitive connections and analysis of topics between varieties of subjects over several years. • Synthesize meaning and make cognitive connections, predictions, and interpretations about various parts of labs. • Evaluate, troubleshoot, and repair equipment by using the scientific method. • Apply mathematical and verbal/written/reading skills to interpret and solve problems.
MOBILITY/MOTOR SKILLS	<ul style="list-style-type: none"> • Ability to sit or stand for prolonged periods of time • Ability to perform repetitive physical tasks • Ability to perform dexterous manipulative work for several hours • Ability to feel by touch with finger dexterity • Ability to complete duties that require stooping, bending, and climbing 	<ul style="list-style-type: none"> • Participate completely in lab activities. • Wiring large and small components into small places. • Reaching all parts of the motors and controls and hydraulics/pneumatics boards. • Perform equipment-related work activities. • Manipulation of hand tools and using industry standard measurement tools such as multimeters, calipers, and micrometers.
TECHNOLOGY SKILLS	<ul style="list-style-type: none"> • Able to utilize the current technology 	<ul style="list-style-type: none"> • Able to create documents on the computer.
AUDITORY SKILLS	<ul style="list-style-type: none"> • Ability to hear and comprehend instructions and manufacturer videos with group/class members • Ability to tolerate a wide range of noise which can potentially be loud • Ability to effectively hear sounds that indicate potential issues and problems in the machining environment 	<ul style="list-style-type: none"> • Motor and circuit troubleshooting. • Hear instructions in noisy shop and classroom environment. • Respond to alarms, bells, whistles, and other equipment sounds.
VISION SKILLS	<ul style="list-style-type: none"> • Ability to distinguish between different colors • Ability to see and read small numbers and labels on components, follow wire diagrams, visually inspect components and systems to test and troubleshoot, as well as follow manufacturer tutorials • Ability to see meters and gauges • Ability to sufficiently read books, diagrams, and manuals some of which do not come with online texts 	<ul style="list-style-type: none"> • Finding the nominal value of resistors. • Reading what is written on a small circuit board or piece of equipment. • Seeing where to place wires on screw terminals on a relay or motor contractor. • Seeing white to place leads of a multimeter to measure voltage or resistance on both small surface or breadboard components as well as on industrial motors and motor controls. • Reading which terminal a wire goes on based on what is written on the wire. • Read MSDS documents. • Follow PDFs, specialized software, and handwritten diagrams and schematics.

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COMMUNICATION SKILLS	<ul style="list-style-type: none"> • Ability to read and write sufficiently to follow manuals and directions in today's technical work environment • Ability to communicate verbally (hear, lip-read and speak) to follow directions, explain a scenario or setup, and communicate questions • Appropriate interpersonal interaction with other students, faculty, staff, facility owners, customers, and other technicians 	<ul style="list-style-type: none"> • Speak clearly. • Reading comprehension for manuals and textbooks. • Comprehension, synthesis, and analysis of technical information. • Asking questions or giving explanations that make sense. • Taking criticism in a professional and productive manner. • Being professional and giving meaningful professional critique. • Ability to interpret and give instructions over a wide variety of topics.
INTERPERSONAL SKILLS	<ul style="list-style-type: none"> • Ability to work with others in a variety of settings and situations, some of which may be stressful, hot, or cold • Maintain hygiene and dress requirements appropriate for an industrial and technical environment 	<ul style="list-style-type: none"> • Taking criticism in a professional and productive way. • Behave professional and give professional critique. • Reading and giving basic social cues and abiding by and accepting professional norms. • Respecting instructors, students, facilities, and equipment.
BEHAVIORAL SKILLS	<ul style="list-style-type: none"> • Ability to behave in a professional, safe, and appropriate manner in both dress and action as required by the program • Ability to maintain a work space that is appropriate and actively moving toward quality project completion • Does not take risks to endanger equipment or personnel • Thinks before they act • Respectful to teachers and other learners • Follows all rules and regulations 	<ul style="list-style-type: none"> • Behaving safely and not roughhousing or playing during labs. • Being respectful of others and equipment. • Wearing appropriate PPE and approved clothing. • Being attentive to task at hand for some dangerous situations. • Effectively utilizing the time in class to work on assigned tasks. • Not being easily distracted or distracting others. • Respecting instructors, students, and equipment.
WORK SKILLS	<ul style="list-style-type: none"> • Ability to participate in a work-based learning experience 	<ul style="list-style-type: none"> • Students will need to travel to a worksite. • Students may be required to pass a drug screening and/or background check. • Students may be required to obtain certain immunizations.