

Directions:
 Evaluate the student by entering the appropriate number to indicate the degree of competency achieved.

Rating Scale (0-6):

- 0 No Exposure** – no experience/knowledge in this area; program/course did not provide instruction in this area
- 1 Unsuccessful Attempt** – unable to meet knowledge or performance criteria and/or required significant assistance
- 2 Partially Demonstrated** – met some of the knowledge or performance criteria with or without minor assistance
- 3 Knowledge Demonstrated** – met knowledge criteria without assistance at least once
- 4 Performance Demonstrated** – met performance criteria without assistance at least once
- 5 Repetitively Demonstrated** – met performance and/or knowledge criteria without assistance on multiple occasions
- 6 Mastered** – successfully applied knowledge or skills in this area to solve related problems independently

0	1	2	3	4	5	6	A. Appreciate and apply all personal and work place safety procedures	Notes:
							1. Identify types, purposes, and operation of fire extinguishers and suppression resources	
							2. Recognize when first aid is needed for occupational injuries and follow proper procedures	
							3. Identify electrical hazards	
							4. Demonstrate appropriate work place safety practices (e.g., electrical, hand tools, power tools, fall protection, PPE, lockout/tagout, and environmental hazards)	
							5. Identify hazard of RF radiation devices	
							6. Demonstrate safe and proper use of AC line-operated equipment (e.g., isolation transformers, grounding, leakage current testing, and GFI)	
							Other:	

0	1	2	3	4	5	6	B. Test fundamental electronic circuits and devices	Notes:
							1. Evaluate and test sources of DC and AC signals and power	
							2. Apply Ohm's law	
							3. Evaluate and test DC circuits (e.g., parallel and series-parallel)	
							4. Evaluate and test bridge circuits	
							5. Evaluate and test magnetic and electromagnetic devices	
							6. Evaluate and test transformers	
							7. Evaluate and test capacitors	
							8. Evaluate and test inductors	
							9. Evaluate and test resistive devices	
							10. Evaluate and test basic circuit controls (e.g., switches, fuses, and circuit breakers)	
							11. Evaluate and test AC series R/L/C (resistance-inductance-capacitance) and filter circuits	

								12. Evaluate and test AC parallel R/L/C and filter circuits	
								13. Evaluate and test time constants	
								14. Evaluate electronic system problems logically	
								Other:	

0	1	2	3	4	5	6	C. Analyze and repair power supplies consistent with industry and safety standards	Notes:
							1. Evaluate and test batteries	
							2. Analyze and repair linear power supplies	
							3. Analyze and repair voltage and current regulator circuits	
							Other:	

0	1	2	3	4	5	6	D. Test semiconductor devices consistent with industry and safety standards	Notes:
							1. Evaluate and test diodes	
							2. Evaluate and test transistors (e.g., BJTs and FETs)	
							3. Evaluate and test thyristors (e.g., SCRs, TRIACs, and DIACs)	
							4. Select semiconductors using specification sheets and substitution guides	
							5. Demonstrate proper semiconductor handling and replacing	
							Other:	

0	1	2	3	4	5	6	E. Analyze and repair amplifiers consistent with industry and safety standards	Notes:
							1. Analyze and repair transistor switching circuit	
							2. Analyze and repair bipolar transistor amplifier circuits	
							3. Analyze and repair FET amplifier circuits	
							4. Analyze and repair operational amplifier circuit	
							5. Analyze and repair multistage amplifiers	
							Other:	

0	1	2	3	4	5	6	F. Analyze and repair frequency generation equipment consistent with industry and safety standards	Notes:
							1. Analyze and repair oscillators	
							2. Analyze and repair pulse generators and multivibrators	

								3. Apply the oscillator operation theory	
								Other:	

0	1	2	3	4	5	6	G. Test equipment	Notes:
							1. Measure voltage, time, and frequency using an oscilloscope	
							2. Measure voltage, current, and resistance using multimeters (e.g., VOM, EVM, and DVM)	
							3. Operate signal generators (e.g., audio, RF, and function)	
							4. Construct a circuit using a Quad bilateral switch	
							Other:	

0	1	2	3	4	5	6	H. Analyze common optical devices	Notes:
							1. Analyze common optical devices (e.g., photodetectors, emitters, optical isolators, and LEDs)	
							2. Construct a circuit using fiber optic cable to transmit a digital or analog signal	
							Other:	

0	1	2	3	4	5	6	I. Analyze and interpret digital logic system components	Notes:
							1. Convert number systems and codes (e.g., binary, hex, ASCII and BCD)	
							2. Analyze basic logic gate operations	
							3. Interpret logic circuit truth tables	
							4. Analyze clock and timing circuit operations	
							5. Analyze combinational logic circuits for a given application	
							6. Analyze counter and controller circuits for sequential logic applications	
							7. Interpret digital data sheet information	
							8. Analyze the operation of A/D and D/A converters	
							Other:	

0	1	2	3	4	5	6	J. Test microprocessors and microcontrollers	Notes:
							1. Evaluate and test microprocessor bus signals	
							2. Evaluate and test IO devices	
							3. Evaluate and test memory devices	
							4. Evaluate and test dedicated microcontrollers	
							5. Write, deploy and test an original microcontroller program	

								Other:	
0	1	2	3	4	5	6	K. Construct circuits consistent with industry and safety standards	Notes:	
							1. Construct multistage circuits according to schematic diagrams		
							2. Surface mount solder and desolder components (e.g., defective and replacement) to IPC standards		
							3. Thru-Hole solder and desolder components (e.g., defective and replacement)		
							Other:		
0	1	2	3	4	5	6	L. Analyze and repair electronic telecommunication systems	Notes:	
							1. Analyze and repair circuits [e.g., phase-locked loop, IF (intermediate frequency), active filter, and RF (radio frequency)]		
							2. Analyze and repair modulation systems		
							3. Analyze and repair transmitters and receivers		
							4. Test and align antennas		
							5. Analyze and repair telephone and personal communication systems (PCS)		
							6. Install, test, and repair satellite receivers		
							7. Operate frequency counters		
							Other:		
0	1	2	3	4	5	6	M. Analyze and repair audio-video systems	Notes:	
							1. Analyze and repair record/play systems (e.g., analog audio, analog video, digital audio, and digital video)		
							2. Analyze and repair video display systems (e.g., digital and analog)		
							3. Analyze and repair audio and video reproduction systems		
							4. Analyze and repair interactive audio and video systems		
							Other:		
0	1	2	3	4	5	6	N. Install and maintain computer network systems	Notes:	
							1. Analyze and repair transmitters and receivers (e.g., photonic and electronic)		
							2. Analyze and repair transmission mediums		
							3. Install, test, and repair physical layer of a network		
							4. Install protocol stack		

								5. Install network software	
								Other:	

0	1	2	3	4	5	6	O. Install and maintain computer software and hardware components	Notes:
							1. Test computer component functions (e.g., microprocessor, memory, and I/O)	
							2. Install and configure hardware components (e.g., drives, cards, memory expansion, motherboard, and disk interfaces)	
							3. Install and configure operating system software (e.g., operating and supporting)	
							4. Test and maintain computer peripherals	
							Other:	

0	1	2	3	4	5	6	P. Install and maintain automatic identification and data capture systems	Notes:
							1. Analyze, install, configure, repair and maintain bar code readers and printers	
							2. Analyze, install, configure, repair and maintain magnetic stripe programmers and readers	
							3. Install and configure smart card programmers and readers	
							4. Analyze, install, configure, repair and maintain radio frequency identification (RFID) systems	
							5. Analyze, install, configure, repair and maintain electronic article surveillance (EAS) systems	
							6. Analyze, install, configure, repair and maintain real time locating systems (RTLS)	
							7. Install and configure machine vision	
							8. Install and configure magnetic ink character recognition (MICR)	
							9. Install and configure voice recognition	
							10. Analyze, install, configure, repair and maintain biometric identification systems (e.g., retinal scanners, hand geometry, and voice patterns)	
							Other:	

0	1	2	3	4	5	6	Q. Install, analyze, and repair industrial electronic systems	Notes:
							1. Design and create simple ladder logic diagrams/programs	
							2. Install and configure programmable logic controllers (e.g., PLC code)	
							3. Analyze and repair motor control systems (e.g., starters and control wiring, and overcurrent protection)	
							4. Analyze and repair variable-speed motor drives	
							5. Identify and test sensors	

								6. Analyze and repair solid-state power controls	
								7. Analyze, repair, and maintain computer-controlled systems (e.g., CNC and robotics)	
								Other:	

0	1	2	3	4	5	6	R. Demonstrate leadership skills in the classroom, industry, and society	Notes:
							1. Demonstrate an understanding of SkillsUSA, its structure and activities	
							2. Demonstrate an understanding of one's personal values	
							3. Perform tasks related to effective personal management skills	
							4. Demonstrate interpersonal skills	
							5. Demonstrate etiquette and courtesy	
							6. Demonstrate effectiveness in oral and written communication	
							7. Develop and maintain a code of professional ethics	
							8. Maintain an appropriate professional appearance	
							9. Perform tasks related to securing and terminating employment	
							10. Perform basic parliamentary procedures in a group meeting	
							Other:	

0	1	2	3	4	5	6	S. Explain and demonstrate skills in a specialization area identified by the instructor	Notes:
							1.	
							2.	
							3.	
							Other:	