

COMPETENCY ANALYSIS PROFILE

INDUSTRIAL ELECTRICIAN

SKILL SETS

SKILLS

PROTECT SELF AND OTHERS U7241	Identify, interpret and apply applicable Acts, regulations, codes and directives	Recognize, assess and control hazards and hazardous conditions, equipment and material	Identify and use fire extinguishers and fire-fighting equipment	Perform housekeeping duties to ensure a safe working environment	Practice first aid in emergency situations
	7241.01	7241.02	7241.03	7241.04	7241.05
	Select, wear, adjust, use and maintain personal protective apparel and equipment	Perform lock out, tagging and hold-off procedures			
	7241.06	7241.07			

READ, INTERPRET AND REVISE SCHEMATIC DRAWINGS AND DOCUMENTATION U7242	Identify, read and interpret architectural drawings and specifications	Create, maintain and modify drawings and sketches	Identify, read and interpret mechanical drawings and specifications	Identify, read and interpret power distribution drawings and specifications	Identify, read and interpret instrumentation and communication drawings and specifications
	7242.01	7242.02	7242.03	7242.04	7242.05
	Identify, read and interpret electrical drawings and specifications	Identify, read and interpret relay, solid state and logic drawings and specifications			
	7242.06	7242.07			

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SELECT, MAINTAIN AND USE TOOLS AND EQUIPMENT U7243	Select, maintain, use and repair hand tools 7243.01	Select, maintain, use and repair electric power tools and accessories 7243.02	Select, use, inspect and maintain rigging and hoisting equipment 7243.03	Select, inspect and maintain scaffolds, lifting devices and elevating platforms 7243.04	Assemble, erect and locate scaffolds, lifting devices and elevating platforms 7243.05
	Dismantle and store scaffolds, lifting devices and elevating platforms 7243.06	Select and perform trade-specific oxy-fuel cutting and welding procedures 7243.07	Schedule electrical job site materials and equipment requirements 7243.08		

INSTALL, MAINTAIN AND REPAIR WIRING SYSTEMS U7244	Select and install busway systems for rural, institutional, commercial and industrial installations 7244.01	Maintain and repair busway systems for rural, institutional, commercial and industrial installations. 7244.02	Select, layout and install branch circuit wiring for power and lighting branch circuits 7244.03	Troubleshoot branch circuit wiring for power and lighting branch circuits 7244.04	Select, layout and install cable trays for power, data and communication cable wiring systems 7244.05
	Select, lay out and install feeder cables for single and multi-conductor cables, metallic and non-metallic cables 7244.06	Select, lay out and install rigid Poly Vinyl Chloride (PVC) conduits 7244.07	Select, lay out and install electric heating systems 7244.08	Select, lay out and install wiring for hazardous locations 7244.09	Select, lay out and install overhead distribution systems 7244.10
	Select, lay out and install underground distribution systems 7244.11				

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U7245	Lay out and install secondary services	Maintain secondary services	Select and install high voltage protection and control devices	Maintain high voltage protection and control devices	Calculate requirements for secondary service loads, fuses and feeders
	7245.01	7245.02	7245.03	7245.04	7245.05
	Select and install oil and dry type distribution transformers	Test and maintain oil and dry type distribution transformers	Select and layout power distribution panels	Test and maintain power distribution panels	Lay out and install ground fault circuit interrupters
	7245.06	7245.07	7245.08	7245.09	7245.10
	Test and Maintain ground fault circuit interrupters	Layout and install power factor correction equipment	Test and maintain power factor protection equipment	Install low voltage power distribution systems	Troubleshoot and maintain low voltage power distribution systems
7245.11	7245.12	7245.13	7245.14	7245.15	
Install direct current (DC) power distribution systems	Troubleshoot and maintain direct current (DC) power distribution systems	Select and install AC/DC protective devices	Troubleshoot and maintain AC/DC protective devices		
7245.16	7245.17	7245.18	7245.19		

U7246	Layout and install incandescent lighting	Maintain and troubleshoot incandescent	Layout and install fluorescent lighting	Maintain and troubleshoot fluorescent lighting	Layout and install high intensity discharge lighting
	7246.01	7246.02	7246.03	7246.04	7246.05
	Maintain and troubleshoot high intensity discharge lighting	Layout and install light dimming and control systems	Maintain and troubleshoot light dimming and control systems	Layout, install and maintain exit and emergency	Measure, record and report illumination levels
	7246.06	7246.07	7246.08	7246.09	7246.10

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INSTALL, MAINTAIN AND TROUBLESHOOT ROTATING EQUIPMENT AND ASSOCIATED CONTROL SYSTEMS	Inspect, maintain and troubleshoot brush assemblies, slip rings and commutators	Inspect, maintain and troubleshoot DC motors and generators	Inspect, maintain and troubleshoot AC motors and generators	Install and test mechanical, electrical alignment and auxiliary protective equipment	Maintain and troubleshoot mechanical, electrical alignment and auxiliary protective equipment
U7247	7247.01	7247.02	7247.03	7247.04	7247.05
	Maintain and troubleshoot lubrication systems	Maintain and troubleshoot braking and clutch systems	Start-up and shut-down rotating equipment	Select and install relays, solid state devices and controls	Maintain relays, solid state devices and controls
	7247.06	7247.07	7247.08	7247.09	7247.10
	Select and install protective devices	Maintain protective devices	Select, assemble and wire control panels, enclosures and control devices	Select and install field devices such as mechanical/ remote field devices	
	7247.11	7247.12	7247.13	7247.14	

INSTALL, MAINTAIN AND TROUBLESHOOT MOTOR DRIVES AND ASSOCIATED CONTROL SYSTEMS	Install, maintain and troubleshoot DC constant voltage drives	Install, maintain and troubleshoot solid state and variable DC drives	Install, maintain and troubleshoot AC constant voltage drives	Install, maintain and troubleshoot solid state and variable AC drives	Install, maintain and troubleshoot computer based interface systems
U7248	7248.01	7248.02	7248.03	7248.04	7248.05
	Install, maintain and troubleshoot programmable logic controller systems	Install, maintain and troubleshoot computerized numerical control systems	Install, maintain and troubleshoot robotic systems		
	7248.06	7248.07	7248.08		

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INSTALL, MAINTAIN AND TROUBLESHOOT STAND-BY POWER SYSTEMS AND ASSOCIATED EQUIPMENT	Layout, install and maintain uninterruptible power supply systems	Layout and install battery stand-by systems	Maintain and troubleshoot battery stand-by systems	Layout and install stand-by generation equipment	
U7249	7249.01	7249.02	7249.03	7249.04	

INSTALL, MAINTAIN AND TROUBLESHOOT COMMUNICATIONS SYSTEMS	Install and test fibre optic cabling and terminations	Select, install and terminate data and communication cables	Maintain, repair and test data and communication cables	Install, maintain and troubleshoot fire alarm systems	Install and test communication system components
U7250	7250.01	7250.02	7250.03	7250.04	7250.05
	Install, maintain and troubleshoot audio-visual systems	Determine layout, install and test patient care systems	Determine layout, install and test security systems	Determine layout, install and test paging systems	Determine layout and install a clock system
	7250.06	7250.07	7250.08	7250.09	7250.10
	Test and verify the operation of a clock system	Determine layout, installing, testing and verifying the operation of automation systems			
	7250.11	7250.12			

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SELECT, MAINTAIN AND OPERATE TEST AND MEASURING EQUIPMENT	Layout and install power and energy metering equipment	Select, operate and maintain analog and digital multimeters	Select, operate and maintain electronic test equipment	Select, operate and maintain insulation testers	Select, operate and maintain oscilloscopes
U7251	7251.01	7251.02	7251.03	7251.04	7251.05
	Select, operate and maintain fault locators	Select, operate and maintain high voltage test equipment	Select, operate and maintain computer-based test equipment	Select, operate and maintain chart recorders	Select, operate and maintain electrical test equipment
	7251.06	7251.07	7251.08	7251.09	7251.10
	Select, operate and maintain special test equipment				
	7251.11				

INSTALL, MAINTAIN AND TROUBLESHOOT INSTRUMENTATION ON DEVICES AND SYSTEMS	Select, install and maintain instrumentation devices	Install, maintain and troubleshoot distributed control systems (DCS)			
U7252	7252.01	7252.02			

COMMUNICATE IN THE WORKPLACE	Write job related documents	Give, receive and convey instructions to and from others	Demonstrate effective interpersonal relations	Present professional image	Interact effectively with computers
U7253	7253.01	7253.02	7253.03	7253.04	7253.05
	Interact effectively through communication devices				
	7253.06				