

Commercial and Industrial Wiring

Duty/Task Crosswalk

This duty/task crosswalk is based on the Oklahoma Duty/Task List for the Electrical Trades, Commercial/Industrial Electrical Assistant, and can be used as a cross-reference in other states.

Abbreviations:

FA—Focus Assignment

AS—Assignment Sheet

JS—Job Sheet

Skill Code	Skill Description	Unit #	Specific Reference
E.01	Plan a sequence of work operation	Projects	All
E.03	Compile a list of motor nameplate data	7	AS 1
E.07	Compile list of materials from wiring blueprints	Projects	All
E.10	Draw external power diagrams	8	AS 1
E.11	Draw schematic diagrams from prewired circuits	4/9/10 12/14	AS 1/AS 1-4/JS 1 AS 1/ JS1
E.12	Draw an “as-built” electrical plan	Projects	All
G.08	Test capacitors in an AC circuit	4	JS 4
G.15	Set up and operate for AC circuits	4/7	JS 1-4/JS 2&3
I.03	Calculate individual circuits	1	AS 2
I.05	Calculate service size – branch circuit	Projects	All
I.07	Perform transformer and motor calculations	1/4 Projects	AS 2/AS 1&4, JS 1-4 All
I.08	Calculate voltage drop	Projects	All
I.09	Calculate conductors	1/5/9 10/12/13 Projects	AS 2&4/JS 1/AS 4&5 AS 3/AS 2/AS 2 All
I.11	Calculate over-current protection	1/9 10/12 Projects	AS 2/AS 4&5 AS 3/AS 2 All
J.01	Ground service equipment – grounding electrode system	3	JS 2
J.02	Install main service panels	3	JS 2
J.08	Install temporary service	3	JS 1&2
J.10	Install metering equipment	3	JS 1&2
K.01	Install and size boxes		

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Skill Code	Skill Description	Unit #	Specific Reference
K.03	Install bar-hanger mounted box	5	JS 1-3
K.05	Install flush mount switch and outlet box in – drywall – masonry wall	5	JS 1
		5	JS 4
K.06	Install gangable boxes	5	JS 1-4
K.07	Install octagon outlet box	5	JS 1
K.08	Install surface mount junction box	5	JS 1
L.01	Lay out electrical systems – use material and devices labeled and listed for the purpose – follow all grounding and bonding requirements	5/Projects	JS 1/All
		5/Projects	JS 1/All
L.02	Rough-in feeders and circuits using a cable system – new construction	5	JS 1
L.04	Rough-in cables or conduits for branch circuits	5	JS 1
L.05	Connect circuits to circuit breaker panels	5	JS 1
L.06	Rough-in circuits to outlet boxes	5	JS 1
L.08	Rough-in a circuit for an outlet controlled with – feed to the device outlet box	5	JS 1
L.10	Rough-in cables for general purpose branch circuits – three-way switch – receptacle outlet	Projects	Scenario 3
		5	JS 1
L.14	Rough-in branch circuit wires to panels	5	JS 1
L.15	Install panels and subpanels	Projects	Scenarios 4 & 8
L.17	Rough-in weatherproof outlet boxes and covers	Projects	Scenario 1
L.20	Install conduits, cables, raceways, and equipment – indoor – outdoor – thin wall (EMT) – multi-conductor – wet locations – dry locations – submerged locations	5/16	JS 1/JS 2 & 3
		Projects	Scenario 1
		5	JS 1
		5	JS 1
		16	Scenario 1
		5	JS 1-3
		Projects	Scenario 7
L.21	Install receptacle circuits – single phase – three phase	5	JS 1
		5	JS 1
M.10	Install/connect for ventilation systems	Projects	Scenario 3
N.11	Connect pump and well pump motors	Projects	Scenario 1
N.12	Install/connect panels	Projects	Scenario 8
N.14	Install/connect low-voltage systems	10	JS 1
N.20	Install smoke and CO detectors	5	JS 3

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Skill Code	Skill Description	Unit #	Specific Reference
O.02	Troubleshoot/repair/replace relays and timers	Projects	Scenarios 7 & 8
O.11	Troubleshoot/repair/replace electric motors	7	AS 2 & JS 4
P.08	Install systems in hazardous locations	Projects	Scenarios 2 & 8
P.13	Test the insulation of cables and equipment	4	JS 2
Q.01	Install and connect transformers – step-down	4	JS 1
Q.02	Test transformer for output and performance under load	4	JS 1 & 4
Q.07	Connect three single-phase transformers to form a – delta-delta configuration (3 or 4 wire)	4	JS 3
R.04	Change the direction of rotation of electrical motors	13	JS 1
R.09	Connect three-phase AC motor to run off different voltages	7	JS 4
S.01	Install, troubleshoot, and repair motor control systems – single-phase systems – three-phase systems – magnetic motor starters – interlocking, reversing systems – hand sequence systems – timed sequence systems – jogging systems – multiple station systems • 3 wire-motor control systems – reversing motor control systems • using drum switches • using reversing starters	7 7/9/12 14/Projects 7/11 13 11 14 Projects 12/13 9/14 13/Projects 13 Projects	JS 1 JS 4/JS 1-3/JS 1-4 JS 3-7/All JS 5/JS 1&2 JS 1-3 AS1, JS 1 & 2 JS 5&6 Scenarios 2, 9 & 10 AS 1-4/JS 6 JS 5-7/JS 7 JS 5/Scenario 5 JS 4 & 6 Scenarios 3 & 8
S.03	Install, troubleshoot and repair special purpose motor control systems – AC reduced voltage starter (resistance) – pilot-motor-driven motor timing controls	10 9/10 Projects	AS 1 JS 7/AS 1, JS 1 Scenario 8
S.05	Install, troubleshoot and repair sensors, controls and relay control systems – control relay systems – control switches – pressure switches – time delay relays • on-delay • off-delay	10/12/14 12/14 Projects 9/Projects 10 14/Projects 14/Projects	JS 1/JS 4/JS 1-4 JS 1 & 3/JS 1 & 2 Scenarios 1, 3 & 6 JS 4/Scenario 7 JS 2 JS 3/Scenario 9 JS 4/Scenarios 8 & 10

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Skill Code	Skill Description	Unit #	Specific Reference
S.06	Troubleshoot and repair solid state devices in control systems <ul style="list-style-type: none"> – solid state rectifiers <ul style="list-style-type: none"> • three phase 	10	JS 2
S.08	Install, troubleshoot and repair control wiring for a programmable controller system	10/15	JS 2/AS 1
S. 09	Install control systems using Class 1, Class 2, and Class 3 wiring materials and methods	14	JS 1-4
U.01	Maintain a courteous and responsive attitude toward all customers	All	
U.02	Demonstrate appropriate interpersonal skills	All	
U.03	Maintain self-esteem in self and others	All	
U.04	Recognize the importance of team work and participate as a team member	All	
U.05	Maintain professional respect for co-workers and supervisor	All	
U.06	Demonstrate professionalism	All	
U.07	Practice critical thinking skills to workplace situations	1/Projects	AS 1/All
U.08	Maintain satisfactory attendance	All	
U.10	Function within the organizational structure	All	
U.11	Cooperate with co-workers in the completion of assignments	All	
U.12	Practice self-management (time management) techniques	All	
U.13	Practice deductive and inductive reasoning skills	All	
U.15	Employ listening skills	All	
U.16	Compose written communication legibly using correct grammar, spelling, and format	2	FA
U.17	Demonstrate ability to interpret and follow written directions and information	All	
U.18	Demonstrate ability to interpret and follow oral directions	All	
U.19	Use job-related terminology, symbols, and abbreviations	All	
U.21	Use effective communication techniques	All	
U.22	Use verbal and non-verbal communication techniques	All	
U.23	Apply behavior management techniques to workplace	All	
U.25	Respond to compliments, complaints, conflicts, and criticism appropriately	All	

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Skill Code	Skill Description	Unit #	Specific Reference
U.27	Retrieve, recognize, and calculate common statistical formulas		
	– addition, subtraction, multiplication, and division of whole numbers	1	AS 1&2
	– decimals	1	AS 1&2
	– percentages	1	AS 1&2
U.28	Demonstrate negotiation skills – solve everyday human relations problems	All	
U.29	Demonstrate leadership skills – employ leadership skills	All	