

PETROCHEMWORKS COMPETENCY MAP BY SKILL SET - INDUSTRIAL ELECTRICIAN		
PATHWAYS: Industry Based, High School CTE, Community College, Military, Community Based, Other Industry		
HELPER		
ENTRY LEVEL	MID LEVEL	TOP LEVEL
OJT: 6 Months - 1 Year	OJT: 1 Year - 2 Years	OJT: Until ready for Independent Work confirmed by Site Supervisor
PRACTICE SAFETY AWARENESS, INCLUDING LOTO PROCEDURES	READ AND INTERPRET A TAPE MEASURE	APPLY ADVANCED TRADE MATH AND OHMS LAW
PRACTICE SAFE HOUSEKEEPING	APPLY BASIC ELECTRICAL THEORY AND OHMS LAW	REFERENCE THE NATIONAL ELECTRICAL CODE (NEC)
IDENTIFY BASIC TOOLS	APPLY FORMULAS FOR CONDUIT BENDING	LAY OUT AND INSTALL RACEWAY SUPPORTS
APPLY BASIC CONSTRUCTION MATH	IDENTIFY CABLE TRAY SIZES AND COMPONENTS	PROPERLY BEND AND INSTALL CONDUIT AND RACEWAYS
	IDENTIFY RACEWAY FITTINGS AND SIZES	PULL WIRE (CABLE)
	EXPLAIN PROPER WIRE PULLING METHODS	IDENTIFY COMPONENTS OF MOTORS AND CONTROLS
	OPERATE A BENDER MACHINE	IDENTIFY VARIOUS TYPES OF MOTORS AND THEIR APPLICATIONS
	OPERATE A CHICAGO BENDER	IDENTIFY TRANSFORMER TYPES AND SIZES
	INDENTIFY COMPONENTS OF ELECTRICAL, ISO, AND P&ID LOOP DRAWINGS	IDENTIFY VARIOUS CONTROL DEVICES
	DESRCIBE ELECTRICAL FITTING TYPES AND SIZES	PROPERLY USE A VOLTMETER AND OHM METER
	IDENTIFY CONDUIT TYPES AND SIZES AND COMPLETE PROPER BENDING	COMPLETE ARC FLASH TRAINING (NFPA 70E)
	IDENTFY AND USE ELECTRICAL HAND AND MEASURING TOOLS	PERFORM BASIC FIELD CALCULATIONS
	PROPERLY CUT, REAM, AND THREAD CONDUIT	INSTALL CATHODIC PROTECTION
	IDENTIFY AND USE ELECTRICAL POWER TOOLS	DEMONSTRATE BASIC OPERATION OF ELECTRICAL TEST EQUIPMENT
CRAFT PROFESSIONAL (JOURNEYMAN) -INDUSTRIAL ELECTRICAN		
ENRY LEVEL	MID LEVEL	TOP LEVEL
INTERPRET AND DIRECT WORK FROM APPROPRIATE DRAWINGS	PLAN AND EXECUTE WIRE PULLS USING A CABLE SCHEDULE	TROUBLESHOOT POWER AND CONTROL SYSTEMS
ROUTE AND INSTALL RACEWAYS USING FIELD DRAWINGS/PLANS	TERMINATE CABLES USING A CABLE SCHEDULE AND WIRING DIAGRAM	PERFORM MATERIAL TAKEOFF
IDENTIFY AND READ A CABLE SCHEDULE	SIZE WIRE, CONDUIT AND MOTORS USING NEC CODE TABLES	DESCRIBE/DEMONSTRATE HIGH VOLTAGE TERMINATIONS
ROUTE AND INSTALL CABLE TRAY	TERMINATE MOTORS AND CONTROLLERS	COMMISSIONING PROCEDURES
CONNECT A START/STOP STATION TO STARTER	OPERATE ALL VOLTAGE AND AMPERAGE TESTING EQUIPMENT	INTERPRET LOOP DRAWINGS
COMPLETE PACKING/SEALING FOR HAZARDOUS LOCATION FITTINGS	IDENTIFY AND TERMINATE VARIOUS FIELD INSTRUMENTS	INSTALLATION OF POWER DISTRIBUTIONS SYSTEMS, INCLUDING SWGR, MCC'S, BUS DUCT AND TRANSFORMERS
IDENTIFY AND INSTALL PROPER JUNCTION BOXES FOR RACEWAYS	INTERPRET SITE, FIELD AND SPECIFICATION DRAWINGS	TERMINATE DC CABINET WIRES FOR FIELD INSTRUMENTS
TERMINATE TRANSFORMERS	INSTALL GROUNDING SYSTEMS	
DEMONSTRATE UNDERSTANDING SINGLE/3PHASE LOGIC		
COMPLETE 120V/480V TERMINATIONS		

Disclaimer: The Competency Map above is intended as a guide to confirm skill sets and to support career progression. This is not a training model. It does not cover every task a craftsman would perform at a specific level., and should not be used as a training plan. The Competency Map shows overall knowledge and/or proficiency necessary to perform at a designated level.

All helpers and journeyman are expected to practice high quality craftsmanship.  
All experienced craft professionals are expected to guide and mentor lessor experienced helpers.  
All are expected to work with safety as the most important principle.  
All are expected to display high performance work behaviors: attendance, punctuality, teamwork, safety and quality.

*\*\*State liensing requirements may apply to electrical craft depending on project scope and location.  
Craft Professionals and Helpers may be required to hold journeyman and/ or  
apprentice licenses, depending on the required ratios.*