

## ***Penn Foster's Michigan Electrical Apprenticeship program***

<b>Course Title</b>	<b>Course Number</b>	<b>PF Price</b>	<b>Course Duration</b>
<b><u>Year 1:</u></b>			
Working Safely with Electricity	4400	\$65.00	10 hours
Basic Industrial Math	Block X31	\$390.00	30 hours
Addition and Subtraction	186303	(\$65.00)	(5 hours)
Multiplication and Division	186304	(\$65.00)	(5 hours)
Fractions, Percents, Proportions, and Angles	186305	(\$65.00)	(5 hours)
Metric System	186306	(\$65.00)	(5 hours)
Formulas	186307	(\$65.00)	(5 hours)
Introduction to Algebra	186308	(\$65.00)	(5 hours)
Problem Solving and Troubleshooting	186073	\$65.00	10 hours
Electrical Equipment, Part 1	006027	\$65.00	10 hours
Electrical Equipment, Part 2	006028	\$65.00	10 hours
Conductors	006014	\$65.00	10 hours
Working With Conduit	006015	\$65.00	10 hours
Wiring Electrical Components, Part 1	006029	\$65.00	10 hours
Wiring Electrical Components, Part 2	006030	\$65.00	10 hours
Working with Multimeters	006021	\$65.00	10 hours
DC Principles	Block A31	\$***.00	30 hours
Nature of Electricity	086112	(\$65.00)	(5 hours)
Circuit Analysis and Ohm's Law	086113	(\$65.00)	(5 hours)
Capacitors and Inductors	086114	(\$65.00)	(5 hours)
Magnetism and Electromagnetism	086115	(\$65.00)	(5 hours)
Conductors, Insulators, and Batteries	086116	(\$65.00)	(5 hours)
<b><u>Year 2:</u></b>			
DC Motors and Generator Theory	086117	(\$65.00)	(5 hours)
AC Principles	Block A32	\$520.00	40 hours
Alternating Current	086118	(\$65.00)	(5 hours)
Alternating Current Circuits	086119	(\$65.00)	(5 hours)
Inductors in AC Circuits	086120	(\$65.00)	(5 hours)
Capacitors in AC Circuits	086121	(\$65.00)	(5 hours)
Transformers	086122	(\$65.00)	(5 hours)
Alternators	086123	(\$65.00)	(5 hours)
Electrical Energy Distribution	086124	(\$65.00)	(5 hours)
Rectification and Basic Electronic Devices	086125	(\$65.00)	(5 hours)
Electrical Blueprint Reading	006036	\$65.00	10 hours
Reading Electrical Schematic Diagrams	006022	\$65.00	10 hours
Electrical Equipment	Block A24	\$780.00	60 hours
Conductors and Insulators in Industry	086070	(\$65.00)	(5 hours)
Working with Conduit	086071	(\$65.00)	(5 hours)
Electrical Boxes	086072	(\$65.00)	(5 hours)
Industrial Enclosures and Raceways	086073	(\$65.00)	(5 hours)
Connecting Electrical Equipment, Part 1	086074	(\$65.00)	(5 hours)
Connecting Electrical Equipment, Part 2	086075	(\$65.00)	(5 hours)
Industrial Fuses	086076	(\$65.00)	(5 hours)
Industrial Circuit Breakers	086077	(\$65.00)	(5 hours)
Plugs, Receptacles, and Lampholders	086078	(\$65.00)	(5 hours)
Industrial Switches	086079	(\$65.00)	(5 hours)

Industrial Relay Ladder Logic	086080	(\$65.00)	(5 hours)
Industrial Relays, Contractors, and Solenoids	086081	(\$65.00)	(5 hours)
Transformers	4040	\$65.00	10 hours
Transformer Operation	4041	\$65.00	10 hours
Distribution and Power Transformers	4042	\$65.00	10 hours

**Year 3:**

Industrial DC Motors	086051	\$65.00	10 hours
Industrial AC Motors	086052	\$65.00	10 hours
Controlling Industrial Motors	086053	\$65.00	10 hours
National Electrical Code (Text/Course)	5177EM	\$399.00	60 hours
Michigan Rules & Regulations, Parts 1 & 2	MAA8A	\$149.00	15 hours
Fire Alarm Systems	MAA8B	\$399.00	15 hours
Alternating Current Motors	4032	\$65.00	10 hours
Industrial Motor Applications	4341	\$65.00	10 hours
Motor Control Fundamentals (for PLC's)	006010	\$65.00	10 hours

**Year 4:**

Industrial Motor Controls, Part 1 - 3	6699A-C	\$195.00	30 hours
Industrial Motor Control (for PLC's), Part 1	006011	\$65.00	10 hours
Industrial Motor Control (for PLC's), Part 2	006012	\$65.00	10 hours
Protective Relaying, Parts 1 & 2	6538A-B	\$130.00	20 hours
Electrical Grounding	086E01	\$149.00	25 hours
Electrical Wiring Practices	086E02	\$149.00	20 hours
Control Technology for Technicians	286M04	\$399.00	45 hours

**Duration: 610 hours: Year 1 = 145 hours; Year 2 = 155 hours; Year 3 = 150 hours; Year 4 = 160 hours**

**Cost: Year 1 = \$1,300 + \$65 s/h; Year 2 = \$1,690 + \$84.50 s/h; Year 3 = \$1,337 + \$66.5 s/h; Year 4 = \$1,152 + \$57.60 s/h**