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## Industrial Electrician Apprenticeship Program

### Course Curriculum

#### Semester 01 (Tuition: \$650)

Course #	Course Title	Credits
50-413-501	Industrial Electrician I	4

Credits: 4    Lecture Hours: 144

Students demonstrate electrical safety and first aid; choose and properly utilize tools of the trade for installation, repair and test electrical devices; apply basic electrical theory to basic wiring; and begin to use the National Electric Code. Students must be indentured in the Industrial Electrician Apprenticeship Program.

4

#### Semester 02 (Tuition: \$650)

Course #	Course Title	Credits
50-413-502	Industrial Electrician II	4

Credits: 4    Lecture Hours: 144

Students apply the theory of magnetism and electromagnetism (generation and utilization) to motor control, line diagrams and devices using basic trigonometry, and code wiring methods. Students must be indentured in the Industrial Electrician Apprenticeship Program.

4

#### Semester 03 (Tuition: \$330)

Course #	Course Title	Credits
50-413-503	Industrial Electrician III	2

Credits: 2    Lecture Hours: 72

Students apply AC theory while measuring AC resistive, inductive, capacitive and combination circuits, using various measuring instruments and math formulas.

2

#### Semester 04 (Tuition: \$330)

Course #	Course Title	Credits
50-413-504	Industrial Electrician IV	2

Credits: 2    Lecture Hours: 72

Students examine advanced motor control (contractors, magnetic starters, timers and other control devices), along with transformers for control and distribution of electricity.

2

#### Semester 05 (Tuition: \$330)

Course #	Course Title	Credits
50-413-505	Industrial Electrician V	2

Credits: 2 Lecture Hours: 72

Students apply power factor correction, recognize the different types of AC motors (single phase), power distribution systems, specialty transformers, and code sections covering them.

**2**

**Semester 06** (Tuition: \$330)

<b>Course #</b>	<b>Course Title</b>	<b>Credits</b>
50-413-506	Industrial Electrician VI	2

Credits: 2 Lecture Hours: 72

Students work with 3-phase motors, look up and apply the National Electric Code sections covering motor installation, electromechanical and solid state motor control.

**2**

**Semester 07** (Tuition: \$330)

<b>Course #</b>	<b>Course Title</b>	<b>Credits</b>
50-413-507	Industrial Electrician VII	2

Credits: 2 Lecture Hours: 72

Students control processes using industrial solid state devices and apply digital fundamentals theory for industrial uses.

**2**

**Semester 08** (Tuition: \$330)

<b>Course #</b>	<b>Course Title</b>	<b>Credits</b>
50-413-508	Industrial Electrician VIII	2

Credits: 2 Lecture Hours: 72

Students program electronically programmable devices, smart motor controllers and programmable logic controllers.

**2**

**Total Credits: 20**

**Estimated Total Tuition\*: \$3,280**