

Trained Electricians are in Demand!

Electricians are the aristocrats of the construction industry. Electricians earn one of the top hourly wage rates in the industry. They are affected less by the seasonal nature of most building trades so annual earnings also tend to be higher. When weather conditions are unfavorable, often jobs can be found in factories as well as private and public institutions. Some states require electricians to be licensed by passing a journeyman's examination. It takes a great deal of time and study, but the rewards are many. If you are looking for a career with a future, start with IEC's Electrician Apprenticeship Training Program.

IEC Can Help You Get Started

The Independent Electrical Contractors Association of Greater St. Louis invites you to apply for admission to the IEC Electrician Apprenticeship Program. Students who successfully complete the class work and on-the-job training requirements graduate as a Journeyman Electrician. ***The IEC Apprenticeship Program is registered by the U.S. Department of Labor, Office of Apprenticeship to graduate Journeymen Electricians.***

Classroom Training

The IEC Apprenticeship Classroom Training is a four-year program. Apprenticeship classes meet in the evenings from August to May. Each year students receive a minimum of 160 hours of classroom and lab instruction. All classes are held at the IEC Training Center in Chesterfield.

Apprentice's receive classroom training in:

Basic Electricity & Math, Blueprint Reading, Motors & Generators, Safety, CPR & First Aid, OSHA 10-Hour, Electrical Fundamentals & Theory, NFPA70E, Transformers, Motor Controls, & the current National Electrical Code.

On The Job Training

The IEC Apprenticeship Program **does not guarantee employment**. However, we do work with our students to place them as Apprentice Electricians with IEC Contractor Member. To graduate as a Journeyman, Apprentices need a total of 8000 hours of on-the-job training in Preliminary Wiring, Residential and Commercial Wiring, Troubleshooting, and Motor Controls. During training apprentices are supervised and receive extensive instruction related to job safety.

Registration

Minimum Requirements

All applicants must be at least **18 years of age**. You must have a **high school diploma or equivalent**. Prospective students must pass an entry exam prior to registration. Passing grade for exam is 78%. If you do not pass the entry exam, you will be required to take the 12-hour math course provided by the IEC. There is an additional fee for this course.

The Registration Process

Applications are to be **completed in person** at the IEC office. Applications are accepted Monday-Thursday, 9:00 a.m. - 4:00 p.m by appointment only. Applicants need to provide the following:

- **State issued Picture ID**
- **High School or College transcripts**
- **A non-refundable \$100.00 tuition deposit**

*A Publication of the
Independent Electrical Contractors
of Greater St. Louis
668 Goddard Ave.
Chesterfield MO 63005*



BRIGHTEN YOUR FUTURE!

Acceptance into the Program

To be accepted into the program, you must complete the outlined application process. Upon passing the entry exam and completing the application process, you will be placed in the IEC Available Apprentice List which is made available to all IEC contractor members.

All fees are due prior to starting school!

Advanced Placement

Advanced placement into the second year is available through the IEC Advanced Placement Exam. Students must request the exam at the time of application. There is an additional fee for this exam.

Affirmative Action

The recruitment, selection, employment, and training of apprentices during their apprenticeship shall be without discrimination because of age, race, color, religion, national origin or sex. IEC will provide equal opportunity in the apprenticeship program as required under Title 29 of the Code of Federal Regulations.

The IEC is now accepting applications for the 2020-2021 school year.

**ENROLLMENT IS ON A
FIRST COME FIRST SERVE BASIS
SPACE IS LIMITED**

**CALL THE IEC AT 636-536-9701.
FOR FURTHER DETAILS CONTACT
Jessica Garnett at training@iecstl.com**

What is I.E.C.?

The Independent Electrical Contractors is an Association comprised of hundreds of Independent Electrical Contractors and their thousands of Employees across the United States. IEC, in its current form, was officially founded in 1958. Several cities and states have similar Associations that are solely dedicated to the concerns of **Independent Electrical Contractors** and their employees.

The Independent Electrical Contractors is a voluntary association. IEC is headquartered in Arlington, Virginia, and administered by a full-time staff. The Association's leadership is elected by Contractor Members. This includes a Board of Directors and appropriate committees to address the main concerns of the Association.

Contractors and their Employees benefit from IEC membership in several ways:

- ◆ A nationwide network of fellow Independent Contractors
- ◆ A Registered Apprenticeship Training Program, Safety Programs, resources and materials
- ◆ Legislative information and action that protects independent and small business issues
- ◆ Seminars and upgrade education for Electricians and Management
- ◆ Annual convention and exposition to keep pace with industry changes
- ◆ Publications that highlight important issues

The majority (**85%**) of all Electrical Contractors nation-wide are independent contractors. Independent contractors are responsible for over three-fourths of all electrical contracting work performed in the United States. The work includes: Commercial, Residential, Industrial, Communications, Institutional Construction, and maintenance. As an employee of an Independent Electrical Contractor, you are joining thousands of others who are dedicated to providing the highest quality of workforce and craftsmanship in the country.

Independent Electrical Contractors
of Greater St. Louis
668 Goddard Ave,
Chesterfield MO 63005.



Independent Electrical Contractors, Inc.

Electrical Apprenticeship Program



Sponsored By
***The Independent Electrical Contractors
of Greater St. Louis***

Approved By
***The U.S. Department of Labor
Office of Apprenticeship***



FOURTH YEAR

First Semester

- 401—Energized Electrical Work Relative to NFPA 70E
- 402—Power Distribution Systems & Phase-Loss Monitors
- 403—Solid—Slate Relays and Phase-Loss Lab
- 404—Timing Relays: On—Delay, Interval & Recycle
- 405—Timing Relays: Practical Application Lab (PLA) & Interval Timers (Stop Light)
- 406—Timing Relays: Off—Delay, One-Shot & Multifunction
- 407—Timing Relays: Practical Application of Off—delay, One Shot & Multifunction Timers
- 408—Counters and Sensors
- 409—Mid Term Review and Exam
- 410—Motor Starting Methods
- 411—Motor Drives—Accelerating & Decelerating Methods
- 412—Introduction to Programmable Controllers
- 413—Advanced Lab—Automatic Car Wash
- 414—Energy Management & Building Automation Including Latching Relays
- 415—Fire Suppression Systems & Advanced Lab
- 416—Preventive Maintenance & Troubleshooting

Second Semester

- 417—First Semester Exam Review
- 418—First Semester Final Exam
- 419—Introduction, Definitions & Boxes
- 420—Cables & Underground Installations
- 421—Raceways and Conductors
- 422—Dwelling Units: General Provisions
- 423—Dwelling Units: Specific Provisions
- 424—Services: Equipment, Working Space, Grounding & Bonding
- 425—Commercial Installations
- 426—Hazardous & Health Care Facilities
- 427—Mid—Term Review and Exam
- 428—Miscellaneous Occupancies & Special Equipment
- 429—Industrial Services, Transformers & Feeder Taps
- 430—Motor & Power quality
- 431—Services & Load Calculations
- 432—BCES Application
- 433—Fire Alarm Systems—Introduction & Overview
- 434—Voice/Data/Video—Introduction & Overview
- 435—Final Exam Review
- 436—Second Semester Final Exam

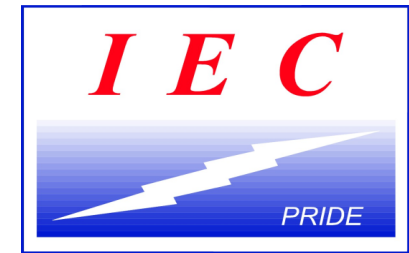


Training Tomorrow's Electricians Today!



For more information on IEC's
Electrical Apprenticeship Program

Contact:
Jessica Garnett
668 Goddard Ave
Chesterfield, MO 63005
Phone: 636-536-9701
Email: Training@iecstl.com



Independent Electrical
Contractors, Inc.

2020—2021 Curriculum Guide

Independent Electrical Contractors
Of Greater St. Louis
668 Goddard Ave
Chesterfield, MO 63005
Website: www.iecstl.com
Phone: 636-536-9701



FIRST YEAR

First Semester

- 101– Orientation and Basic Principles
- 102– Tools, Fasteners and Knots
- 103– Intro to safety, Navigating the NEC & EWR
- 104– Intro to Electric Charges & Basic Math
- 105– Applied Math, Circuit Theory, Plans & Specs
- 106– Applied Math, Ohm's Law, Symbols & Boxes
- 107– Conduit Bending
- 108– Dwelling Circuits, Outlets & General lighting
- 109– Conductor Types, Ampacity & Overcurrent
- 110– Voltage Drop, Cable, Conduit and Tubing
- 111– Mid-Term Review and Exam
- 112– Conductors, switches & Receptacles
- 113– GFCI, AFCI & Receptacles
- 114– Luminaires, Ballasts & Lamps
- 115– Box Fill & Intro to series circuits
- 116– Box Size and series Circuits
- 117– Lighting & Small Appliance Circuits
- 118– First Semester Final Exam

Second Semester

- 119– Track Lighting, Dimmers & parallel Circuits
- 120– Laundry & Bathroom Receptacles Circuits
- 121– Garage Door & Underground installations
- 122– Appliance & Special purpose Outlets
- 123– Kitchen Appliances & Grounding conductors
- 124– Bathrooms, Exhaust Fans & Tubs
- 125– Heating and Air Conditioning
- 126– Residential Limited Energy Systems
- 127– Mid-Term Review and Exam
- 128– Multiwire Branch Circuits & Combination
- 129– Combination Circuits, Conductors workshop
- 130– Services, Equipment, cost of Electrical Power
- 131– Grounding & Bonding, Special Tools
- 132– Overcurrent protection & circuit conditions
- 133– Service Entrance Calculations
- 134– Swimming Pools, Spas and Hot Tubs
- 135– Home automation, Standby Power
- 136– Second Semester Final Exam

SECOND YEAR

First Semester

- 201– NEC scope, Definitions & Voltage Systems
- 202– Services Calculations & Class 1 Installations
- 203– Services & Class 2 Installations
- 204– Conductor & Overcurrent Protection
- 205– Grounding Terms & Commercial Installations
- 206– Grounding Electrode System
- 207– Ohm's Law review & Bulk Storage Facilities
- 208– Conduit Fill, Box Fill & Pull Box sizing
- 209– First Semester Mid Term review & Exam
- 210– Switches, Panelboards & Health Care Facility
- 211– Flexible Cord, Luminaries & Appliances
- 212– Intro to AC Theory & Places of Assembly
- 213– AC Theory: Miscellaneous Buildings
- 214– AC Theory: Temporary Installations
- 215– Single-Phase Transformers & Single voltages
- 216– Single Phase Transformers, Code Calculations
- 217– First Semester Exam Review
- 218– First Semester Exam

Second Semester

- 219– Three Phase Power & Three Phase Ohms Law
- 220– 3-phase Transformers-Delta-Delta
- 221– 3-phase Transformers-Delta-Wye
- 222– Non-Linear Loads 3-phase Fault Current
- 223– Transformers NEC Requirements
- 224– Buck-Boost Transformers: Single & 3 Phase
- 225– Calculations & Selection
- 226– Generator, Transfer switches & Emergency sys
- 227– Second Semester Mid Term Review & Exam
- 228– Electric Motors: DC & AC Single Phase
- 229– Electric Motors: Polyphase
- 230– Motors: Sizing Branch Circuit
- 231– Motor: Branch Circuit Overcurrent protective Devices: Short Circuit & Ground Fault Protect
- 232– Motor: Branch Circuit Grounding Conductors, Overload Protection, Disconnects & Starters
- 233– Locked Rotor Current and Phase loss for Motor A/C refrig– Equip, Generators & Fire Pumps
- 234– Motor feeder conductors, OCPD's & Tap Conductors
- 235– Second Semester Exam Review
- 236– Second Semester Final Exam

THIRD YEAR

First Semester

- 301– Practical Guide to OSHA & NFPA 70 E
- 302– Intro to Grounding & Bonding
- 303– General requirements for Grounding & Bonding
- 304– System Grounding I
- 305– System Ground II
- 306– Grounding Electrode System & Grounding Electrode Conductor
- 307– Enclosure, Raceway & Service Cable Connections Bonding
- 308– Equipment Grounding & Grounding Conductors
- 309– Methods of Equipment Grounding & Grounding of Specific Equipment
- 310– First Semester Mid Term Exam
- 311– Print reading: Project Design, Development & specifications
- 312– Print reading: Survey, Civil. & Structural Drawings
- 313– Print reading: Architectural Drawings I
- 314– Print reading: Architectural Drawings II
- 315– Print reading: MEP, M, E, P & Special Prints
- 316– Project Planning: Foreman Training
- 317– First Semester Exam Review
- 318– First Semester Exam

Second Semester

- 319– Electrical Quantities, Circuits & Safety
- 320– Manual Control Circuits: Devices & Diagrams
- 321– Introduction to contactors & relays
- 322– Practical Lab Application (PLA): using contactors & relays
- 323– Manual and Automatic control devices
- 324– Ladder Diagrams using manual & automatic control devices
- 325– PLA: Automatic Controls
- 326– Magnetic Motor Starters
- 327– PLA: Pilot Devices & Holding contacts
- 328– Mid Term review and Exam
- 329– Motor overload protection & Connections
- 330– PLA: Magnetic Motor Starters
- 331– Reversing Motor Controllers, Starters & Motor Connections
- 332– PLA: Reversing Motor Starters
- 333– Latching & Altering Relays and Jogging
- 334– PL: Multi Motor Equipment
- 335– Second Semester Final Exam Review
- 336– Second Semester Final Exam

