



IEC Southern Arizona Electrician Apprenticeship Application

APPLICATION	Only pages 1-3 of application packet need to be returned to IEC with all documents below
COPY OF BIRTH CERTIFICATE	
CURRENT COPY OF A VALID AZ DRIVERS	
COPY OF HIGH SCHOOL DIPLOMA OR GED from Dept. of Education	
2 PERSONAL CHARACTER REFERENCE LETTERS – Non-Family members	These letters cannot be used as employer reference letters
2 EMPLOYER REFERENCE LETTERS <u>On Employer, Letterhead</u> Does not have to be construction related	These letters cannot be used as both, personal and employer references The 2 letters cannot be from the same employer
MATH ASSESSMENT TEST	Given at time of interview
SUBSTANCE ABUSE SCREENING	Cost is \$40, cash payment is due at time of interview
OPTIONAL DOCUMENTS *	
*COLLEGE TRANSCRIPTS - if applies	
*TRADE SCHOOL TRANSCRIPTS - if applies	
*DISCHARGE PAPERS FROM SERVICE DD-214 - if applies	

All documents must be submitted with application, if any are missing application will not be accepted, no exceptions.

Once documents have been turned into the IEC office they become property of the IEC office.

*If any of the employer reference letters and personal character reference letters come from the same person or are written the same, you will be required to submit new letters.

I have submitted the above documents. My file is now complete and ready for an interview with the IEC Apprenticeship Committee. I am aware that I will be contacted by email as to when I am to be interviewed.

Applicant Signature:	E-mail:
Completed Application Received by IEC Office on:	
IEC Signature:	

Application # _____

IEC Southern Arizona Electrician Apprenticeship Application

Return to:
P.O. Box 26116, Tucson, AZ 85726
Or
E-mail to: saziec@iecaz.org

VA Approved

Desiring to become a "Bona Fide" indentured apprentice; I hereby make application and on filing same, agree to accept the decision of the IEC of AZ Apprenticeship Committee as to my qualifications and rating.

Date:			
Last Name:		First Name:	Middle:
Address:	City:	State:	Zip:
Are you 18 or older?			
Home Phone:		Cell Phone:	
E-mail address (print clearly):			
Last grade completed in school:			
Are you legally authorized for employment in the USA?			
Are you currently abusing alcohol or drugs? Please explain.			
Do you agree to take random drug test requested by the IEC office and current employer?			
EEO Reporting Purposes only: Caucasian <input type="checkbox"/> Hispanic <input type="checkbox"/> Asian or Pacific Islander <input type="checkbox"/> American Indian or Alaskan Native <input type="checkbox"/> Black <input type="checkbox"/> Other <input type="checkbox"/>			
Time in this trade, years, name of company, describe work:			
Why did you decide on this trade?			

List the companies in this trade with whom you are acquainted with:

- 1.
- 2.
- 3.

Do you have any limitations which would prevent you from performing the essential functions of the occupation for which you are applying? Yes No Please explain:

Pursuant to A.R.S. 23-493, the Apprentice position can be considered safety sensitive. If you are engaged in the current use of any drug, whether legal, prescribed by a physician or otherwise, that could cause impairment of decrease your job performance or duties; you are obligated to inform the IEC office and your future or current employer. You may be excluded from consideration for this safety sensitive position.

RECORD OF EMPLOYMENT – LIST IN ORDER – PRESENT EMPLOYER FIRST

Date Started	Company	Address	Dates of Employment

Trade Courses Taken in High School or Vocational School

Name of Trade Course:

- 1.
- 2.
- 3.

Year Taken	Years	Months	Weeks
Year Taken	Years	Months	Weeks
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Apprenticeship Program Information

The Independent Electrical Contractors Apprenticeship Program is a four-year program. During these four years, you, as an apprentice, will be attending apprenticeship classes during the evening, Spring and Fall semester, two nights a week, two ½ hours a night at IEC. Once accepted into the program you will be placed with a member contractor for employment. **The starting minimum wage for an apprentice is 55% of \$20.00.** As an apprentice, there are several guidelines you must follow; attending class is one of them. At the end of four years in the apprenticeship program, you will receive your State of Arizona Completion Certificate of Apprenticeship.

Under an apprenticeship training plan, people are given broad and comprehensive training in all branches of a skilled occupation. The apprentice works under actual conditions, using the materials, tools and equipment of skilled workers on a real job. The plan provides for school training as well as on the job training. The school training supplements the job training and provides experience which, in numerous cases, cannot be learned on the job. You will be required to attend 1st Aid/CPR class and Lockout/Tagout class in first year. A 10 Hour OSHA class will be required in second year. All classes are required regardless if they have been taken at an earlier date.

In order to make the plan work, an Apprentice Agreement has been developed, based on the apprenticeship standards. This agreement provides for a probationary period for each apprentice. Having successfully passed this period, the apprentice continues with the training program for the required years. During this time, periodic advancements in the work progresses and along with this advancement comes an increase in wages. The Apprentice Agreement can be cancelled for good and sufficient reasons after the probationary period has passed.

Instructions on completing the application and its paperwork needed to prepare for an oral interview before the IEC Southern Arizona Apprenticeship Committee:

Interviews are held the 1st Monday of each month.

- Your application will not be accepted if any documents are missing.
- The Math Assessment will be administered when you return the completed application.
- Substance Abuse Test. You are required to pay for the drug test.
- Employer Reference letters must be on company letterhead but do not have to be construction related. The length of your employment and type of work performed are required. If Electrical please have them state, the number of hours worked with that company.

Cost of Apprenticeship Program

Length of Program

4 – Year Program with a certificate of completion from the US Department of Labor, Bureau of Apprenticeship & Training, Arizona Department of Commerce, Apprenticeship Division, National IEC and IEC of Arizona.

Work

The Apprentice Coordinator handles placement with an IEC Contractor Member. Apprentices who change employers without the approval of the IEC office will be cancelled. The 8,000 hours On-Job-Training (OJT) is accomplished through the apprentice working for and being paid by assigned contractor member. **Starting wage is no less than 55% of \$20.00 per hour (average journeyman scale).**

Cost

Contractors pay \$250.00 to the IEC office, twice a year for Apprenticeship fees. If you are not working for a member contractor, you are responsible for this fee.

Apprentice is responsible for the cost of schooling and books. If employer agrees to be responsible for this payment a letter must be sent to the IEC office, directing IEC to bill the employer.

Cost for books and tuition, price includes Fall & Spring semesters of school.

Price includes Code Book required for all classes. Students will not be allowed to attend class if fees have not been paid by due date on invoice.

- **1st year** \$2232.84 – includes books, calculator, CPR & Lockout/Tagout Classes and all other fees.
- **2nd year** \$1936.75– includes books, blueprints, 10 Hour OSHA Class and all other fees.
- **3rd year** \$1894.98 – includes books, no blueprints (supplied in 2nd year) and all other fees.
- **4th year** \$1885.98 – includes books, no blueprints (supplied in 2nd year) and all other fees.

****All prices subject to change**

Year 1 Recommended Skills

High School diploma or equivalent

Math

- Math Whole Numbers: Add, subtract, multiply, divide
- Decimal Numbers: Add, subtract, multiply, divide
- Fraction Numbers: Add, subtract, multiply, divide
- Ratio/Proportion Percentages
- Measurement - Reading tape measure, etc.
- Estimation – Rounding to nearest tenth, or to the nearest hundred, etc.
- Conversions - Convert between feet and yards, Metric system conversions
- Statistics - Reading and Constructing Graphs
- Pre-Algebra – Integers, (+/-), Exponents, non-linear numbers
- Basic Algebra - solve for x, substitute values in equations, create equations from word problems
- Practical Plane Geometry: Finding area, rectangles, circles
- Solid Figures: Finding volume, cubes, cylinders
- Triangle Trigonometry: Right angle problems

Reading

- High school reading level
- Comprehension and application of technical material
- Familiarity with use of informational text
- English (translation of textbooks is not available)

Apprentice

- Meet local requirements to be an apprentice

Year 2 Recommended Skills

Meet the local chapter requirements for completing Year 1

1. Math
 - a. Basic Measurement Calculations (add/subtract/multiply/divide)
 - b. Volume and Area Calculations for Geometric Shapes and Temp Conversions
2. Safety
 - a. General Safety topics, NFPA 70e Introduction
 - b. GHS, CPR, First Aid
3. General material and device Identification and operation
 - a. Switches (single pole, 3-Way, 4-Way) and Receptacles (GFCI, IG, split, etc.)
 - b. Tools, hardware, blueprint symbols
4. Conduit Bending Basics
5. Print Reading
 - a. Symbols
 - b. Residential circuitry
6. Theory
 - a. Electron Theory
 - b. Conductor Identification (Grounding, Neutral, Ungrounded)
 - c. Ohm's Law Calculations
 - d. Multi-wire Branch Circuits and Neutral Current Calculations
 - e. Series, Parallel, and Combination Circuit Calculations
 - f. Voltage Drop
 - g. Circuit Conditions (i.e. Overload, Short Circuit, Ground Fault)
7. Code
 - a. Navigating the NEC
 - b. Article 90
 - c. 100 Definitions
 - d. 110 Working Space
 - e. 210 Branch Circuit Requirements (Dwelling Units)
 - f. 220 Residential Service Calculation
 - g. 230 Services and Service Clearances
 - h. 240 - Matching OCPD to conductor size
 - i. 300.5 Underground Installations (Table)
 - j. 310.15(B)(2)(a), 310.15(B)(3)(a) and 310.15(B)(16) Sizing conductors (Correction and De-rating Factors)
 - k. 314.16 Introduction to Box Fill
 - l. 320-362 - Brief overview of various wiring methods
 - m. 404 - Switches and 406 -Receptacles
 - n. 422 Appliances
 - o. Chapter 9 Tables 4, 5, and 8

Year 3 Recommended Skills

Meet the local chapter requirements for completing Year 2

1. Math
 - a. Basic Measurement Calculations (add/subtract/multiply/divide)
 - b. Volume and Area Calculations for Geometric Shapes and Temp Conversions
2. Safety
 - a. General Safety topics, NFPA 70e Introduction
 - b. GHS, CPR, First Aid
3. General material and device Identification and operation
 - a. Switches (single pole, 3-Way, 4-Way, Transfer) and Receptacles (GFCI, IG, split, etc.)
 - b. Tools, hardware
 - c. Motors (Lead identification and hookup, Types)
4. Conduit Bending Basics
5. Print Reading (Electrical)
6. Theory
 - a. AC Theory (Inductance, Capacitance, Impedance)
 - b. Conductor Identification (Grounding, Neutral, Ungrounded)
 - c. Ohm's Law (DC, AC, 1-phase, 3-phase)
 - d. Multi-wire Branch Circuits and Neutral Current Calculations
 - e. Series, Parallel, and Combination Circuit Calculations
 - f. Voltage Drop (1-phase, 3-phase)
 - g. Circuit Conditions (i.e. Overload, Short Circuit, Ground Fault)
 - h. Transformers (Single-phase, Delta, Wye, Buck-Boost)
 - i. Efficiency, Power Factor, Short Circuit Ratings
 - j. Motor Theory
7. Code (Other than 250)
 - a. Navigating the NEC
 - b. Article 90
 - c. Chapter 1
 - d. 210 Branch Circuit Requirements
 - e. 220 Service Calculation
 - f. 230 Services
 - g. 240 Overcurrent Protection
 - h. Chapters 3-5
 - i. Chapter 9 Tables 4, 5 and 8
8. Residential Grounding and Bonding
 - a. Definition of terms
 - b. Grounding Electrodes
 - c. GEC/EGC/MBJ sizing

Year 4 Recommended Skills

Meet the local chapter requirements for completing Year 3

1. Math
 - a. Basic Measurement Calculations (add/subtract/multiply/divide)
 - b. Volume and Area Calculations for Geometric Shapes and Temp Conversions
2. Safety
 - a. General Safety topics, NFPA 70e Introduction
 - b. GHS, CPR, First Aid
3. General material and device Identification and operation
 - a. Switches (single pole, 3-Way, 4-Way, Transfer) and Receptacles (GFCI, IG, split, etc.)
 - b. Tools, hardware
 - c. Motors (Lead identification and hookup, Types)
4. Conduit Bending Basics
5. Print Reading
 - a. Development, Specifications and Symbols
 - b. Complete drawing set (Civil, Structural, Architectural, MEP)
6. Theory
 - a. AC Theory (Inductance, Capacitance, Impedance)
 - b. Conductor Identification (Grounding, Neutral, Ungrounded)
 - c. Ohm's Law (DC, AC, 1-phase, 3-phase)
 - d. Multi-wire Branch Circuits and Neutral Current Calculations
 - e. Series, Parallel, and Combination Circuit Calculations
 - f. Voltage Drop (1-phase, 3-phase)
 - g. Circuit Conditions (i.e. Overload, Short Circuit, Ground Fault)
 - h. Transformers (Single-phase, Delta, Wye, Buck-Boost)
 - i. Efficiency, Power Factor, Short Circuit Ratings
 - j. Motor Theory
7. Code
 - a. Navigating the NEC
 - b. Article 90
 - c. Chapters 1-5
 - d. Chapter 9 Tables 4, 5 and 8
8. Motor Control Components
 - a. Manual and Automatic devices (starts, stops, limits, hand-off-auto)
 - b. Coils/Contacts, (Motor Starters, Contactors, Relays)
 - c. Loads (lights, solenoids, horn, etc.)
9. Motor Control Circuitry Theory
 - a. Basic control logic functions (AND, OR, electrically sound, etc.)
 - b. Line diagram symbols and labeling.
 - c. Interpret Line diagrams (holding contacts, jogging, reversing, overloads)