

# IEC's Electrical Apprenticeship Program

## 1st Year Course Outline



### *First Semester*

Orientation And Basic Principles  
Tools and Blueprints  
First Aid/CPR/AED Training  
Applied Math - Circuit Theory - Plans & Specs  
Conduit Bending  
Applied Math - Electrical Symbols & Outlets - Ohm's Law  
General-Purpose and Small - Appliance Circuit  
Conductor Sizes, Types, & Connections - Type NM Cables  
Voltage Drop, Other Wiring Methods, and Printreading  
Mid-term Review and Exam  
Switch Control  
GFCI Protection  
Luminaires  
Front Bedroom Lighting and Introduction to Series Circuits  
Master Bedroom and Series Circuits  
Lighting and Small Appliance Branch Circuits  
Final Exam

### *Second Semester*

Living Room and Study Branch Circuits - Introduction to Parallel Circuits  
Laundry Outlets and Parallel Circuits  
Garage Circuits and Parallel Circuit Calculations  
Conduit Fill and Special Purpose Outlets  
Special Purpose Outlets - Kitchen  
Special Purpose Outlets - Bathroom, Exhaust Fans and Hydromassage Tub  
Heating and Air Conditioning  
Low Voltage and Fire Alarms  
Mid-term Review and Exam  
Recreation Room - Multiwire Branch Circuits and Introduction to Combination Circuits  
Workshop Lighting and Receptacle Branch Circuits - Combination Circuits  
Service Entrance Equipment  
Knots, Rigging, and Specialty Tools  
Overcurrent Protection  
Service Entrance Calculations  
Swimming Pools, Spas, and Hot Tubs  
Home Automation, Standby Power, and Review  
Final Exam



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