



Electricity Curriculum

Week	Year 1 - Topic	Year 2 - Topic	Year 3 - Topic	Year 4 - Topic
1	Safety; Tools of the Trade	Ohms Law Review, Series Circuits	Course Overview / Intro	Using the NEC as a Tool
2	Intro to the Trade and Apprenticeship	Ohms Law Review, Parallel Circuits	Symbols, Basic Views	Wiring Methods and Materials A
3	Devices	Review, Series-Parallel Circuits	Pictorial Views, Dimensions	Wiring Materials, Boxes, Gutters, Cable Trays, Box Fill
4	Boxes and Box Fill	Work, Energy, Power, Efficiency, and Horse Power	Specifications; Working and Shop Drawings	Designing Circuits
5	Conductors and Insulation	Voltage Drop, Regulation	Grades and Elevations	Services, Overhead vs. Lateral
6	Voltage Drop	Induction and Generation of AC	Layout, Footings, Foundation Walls	Services Location/Terminations
7	Switch Circuits	Alternating Current, RMS, P-P	Floors, Walls, Roofs	Feeders, NEC Article 215
8	Branch Circuits	Inductive and Capacitive	Concrete Work Intro	First Quarter Exam
9	Basic NEC for Residences	Impedance, PF and Shift	Concrete Floors, Columns	Branch Circuits, 210 pts A and B
10	Basic NEC for Residences	Apparent and True Power	Masonry Construction	Required Outlets
11	Services; NEC Art 230	Transformers, Impedance	Structural Steel Drawings	Branch Circuit and Feeder
12	Conduit Types and Fill	Transformers, Buck/Boost	Interior Finishes	Standard Load Calculations
13	Conduit Bending	Xfrmer Lab, Tapped Xfrmers	Cabinets, Fixtures, Stairs, and Exterior Finish	Optional Load Calculations
14	Special Systems/Lamps	3-0 Xfrmers, Delta and Wye	Plumbing and Mechanical Prints	Calculations Review
15	Fuses/Circuit Breakers	3-0 Connections and Review	Review for Midterm	Range Calculations
16	Midterm	AC Final	Midterm	Midterm Exam
17	Trade Math	Motor Types and Properties	Intro to Manor Care Plans	CPR
18	Trade Math	Principles of Motor Controls	Specs, Bid Form, Amendments	CPR
19	Magnetism, Basic Theory	Magnetic Starters, Symbols	Site Work, Concrete, Door Hardware, Mechanical	Grounding, Art 250 Part A
20	Electrical Theory, Series "A"	Line Diagrams	Division 16 - Electrical	Grounding, Art 250 Part B
21	Series Circuits Part "B"	Branch Circuit Control/Protection	Overview entire plan set	Grounding, Art 250 Part C
22	Parallel Circuits Part "A"	Multiple Motor and Wire Wound Motor Circuits	Architectural Prints	Overcurrent Protection, 240
23	Parallel Circuits Part "B"	Pilot Devices	Specific Details, Elevations, Wall Sections	Tap Rules and Feeders
24	Series/Parallel Lab	Basic Control Circuits	Structural, Foundation	Third Quarter Exam
25	OSHA Safety	Timing Relays, Push Buttons	HVAC, Mechanical Prints	Motors and Motor Circuits
26	OSHA Safety	Sequencing, Logic, PB Stations, Interlocking Methods	Plumbing, Fire Prints	Motors and Motor Controls, B



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27	Series-Parallel Circuits Part A	Reduced Voltage Starters	Electrical Prints	Bussmen Fuse Demo; Article 517 and 700
28	Series-Parallel Circuits Part B	RV Starters, Part Windings, Star/Delta, Test # 3	Review all Prints - Test	Swimming Pools, Spas, Etc.
29	Series-Parallel Circuits Part C	Deceleration, Jogging, Plugging, and Breaking Controls	Government Center Prints	AC and Refrigeration
30	Series-Parallel Circuits Part D	Acceleration, Speed Control	Government Center Prints	Transformers, NEC Article 450
31	Review for final	Motor Control Final Exam	Final on Government Center	Review for Final
32	Final Exam	Review Final, Grades Given	Review Final, Grades Given	Final Exam
	Total Hours - 150	Total Hours -150	Total Hours - 150	Total Hours -150
	1-8 Math Lab (30 hours) 9-24 Special Project (24 hours)	1-8 Math Lab (30 hours) 9-24 Special Projects (24 hours)	9-16 Term 2 Special Project (27 hrs.) 17-24 Term 3 Special Project (27 hrs.)	9-24 Special Project (24 hours)