

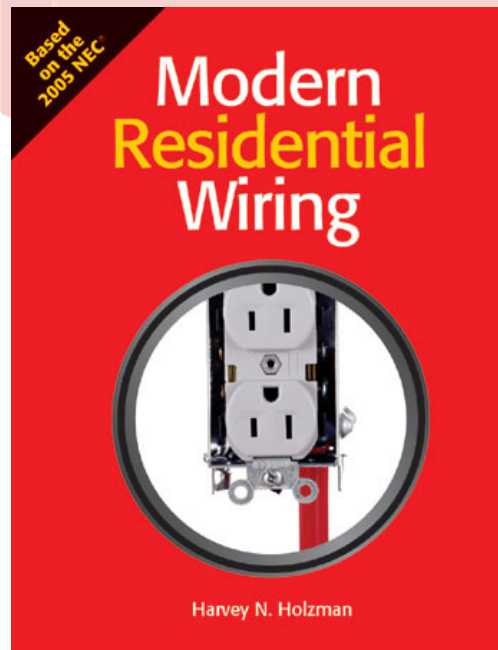


Goodheart-Willcox Publisher

South Carolina Course Standards Correlation

Course: Electricity

Modern Residential Wiring © 2005



www.g-w.com

ELECTRICITY 1, 2, 3 and 4

COURSE CODE: 6287, 6288, 6289, 6290

Competency Number	Competency/Objective	Correlating Page Numbers
62870100	A. DEMONSTRATING WORK SAFETY PRACTICES	
62870101	Demonstrate the ability to work safely.	15-26
62870102	Demonstrate the ability to keep a clean, orderly, safe work area.	20-21
62870103	Operate a fire extinguisher.	
62870104	Demonstrate the safe and proper use of hand and power tools.	20
62870105	Complete a safety test successfully.	26
62870200	B. DEMONSTRATING THE UNDERSTANDING AND KNOWLEDGE OF ELECTRICITY	
62870201	Demonstrate the structure of matter.	28
62870202	Demonstrate and explain the effect of static electricity.	
62870203	Describe and demonstrate current flow.	29-31
62870204	Demonstrate an understanding of energized electrical circuits.	33-39
62870205	Explain and demonstrate the difference between alternating current and direct current.	29-30
62870300	C. DEMONSTRATING THE ABILITY TO MAKE BASIC ELECTRICAL CALCULATIONS, DC THEORY	
62870301	Perform applied math functions.	330-335
62870302	Demonstrate theory of magnetism.	41
62870303	Calculate voltage, current and resistance using Ohm's Law.	34-37, 39

Modern Residential Wiring © 2005

ELECTRICITY 1, 2, 3 and 4

COURSE CODE: 6287, 6288, 6289, 6290

Competency Number	Competency/Objective	Correlating Page Numbers
62870304	Calculate power using Watts Law.	35
62870305	Calculate power necessary to perform various electrical jobs.	40-41
62870306	Measure volts, amperes and resistance using a multimeter.	54-55
62870307	Measure watts using a wattmeter.	
62870400	D. DEMONSTRATING SKILLS REQUIRED TO INTERPRET BLUEPRINTS AND SPECIFICATIONS	
62870401	Identify and explain the purpose of electrical symbols and drawings.	193-198
62870402	Read dimensions of blueprints using scales and tape measures.	195
62870403	Obtain electrical wiring installation information from a floor plan.	191-197, 201-209
62870404	Convert blueprint dimensions to actual distance.	195
62870405	Analyze blueprint information.	191-210
62870500	E. DEMONSTRATING SKILLS REQUIRED TO ROUGH IN FEEDER, CIRCUIT CABLES, AND CIRCUITS	
62870501	Demonstrate and list the organizational structure of the National Electrical Code.	72
62870502	Determine wiring methods and materials.	74-99
62870503	Rough in Romex cable to outlet boxes and distribution panels.	116, 121-122, 80-81
62870504	Rough in armored cable to junction and outlet boxes.	76-80
62870505	Determine wiring for S1, S2, S3 and S4 switches.	138-139, 19-209
62870506	Install duplex, split-wired and moisture resistant receptacles.	139-141

ELECTRICITY 1, 2, 3 and 4

COURSE CODE: 6287, 6288, 6289, 6290

Competency Number	Competency/Objective	Correlating Page Numbers
62870507	Define grounding according to the National Electrical Code Article 250.	155-158
62870508	Identify, install and size boxes according to the National Electrical Code Article 370.	115-122, 305-307
62870509	Install and connect lights controlled by dimmers and switches.	199-209
62870510	Install fans controlled by switches.	
62870511	Install external lights.	
62870512	Install circuit breakers and ground fault circuit interrupters.	152, 162-163
62870513	Balance total load.	222-224
62870600	F. DEMONSTRATING SKILLS TO MAKE SERVICE ENTRANCE INSTALLATIONS IN ACCORDANCE WITH NEC ARTICLE 230	
62870601	Size service entrance conductors according to Article 230 and 310 of the National Electrical Code.	171
62870602	Install and ground service entrance equipment.	165-188
62870603	Install/Connect mobile home service.	243-251
62870604	Demonstrate the ability to install an underground service.	82
62870700	G. DEMONSTRATING THE ABILITY TO MAKE BASIC ELECTRICAL CALCULATIONS, AC THEORY	
62870701	Calculate voltage, current, resistance and power for AC circuits by applying Ohm's Law and Watts Law.	34-37, 39
62870702	Calculate capacitance and inductance values.	
62870703	Demonstrate knowledge of solid state devices.	

ELECTRICITY 1, 2, 3 and 4

COURSE CODE: 6287, 6288, 6289, 6290

Competency Number	Competency/Objective	Correlating Page Numbers
62870800	H. DEMONSTRATING SKILLS REQUIRED TO INSTALL ALARM, COMMUNICATION, AND CONTROL CIRCUITS	
62870801	Construct control circuits from schematics (i.e., bell, low voltage lighting, etc.)	
62870802	Install emergency alarm systems.	
62870900	I. DEMONSTRATING SKILLS IN BASIC CONDUIT BENDING AND FILL	
62870901	Identify basic conduit materials and straps.	60
62870902	Demonstrate cutting and reaming EMT.	84-85
62870903	Make 90-degree bends.	86
62870904	Make various offsets.	87-91
62870905	Make three point saddles.	91-92
62870906	Make back-to-back 90-degree bends.	86
62870907	Determine conduit fill.	
62871000	J. DEMONSTRATING SKILLS IN ELECTRICAL CONTROLS AND DEVICES	
62871001	Demonstrate knowledge of control symbols.	
62871002	Describe and connect various industrial relays and starters.	
62871003	Demonstrate knowledge of control wiring.	
62871004	Install sensing and control devices.	

ELECTRICITY 1, 2, 3 and 4

COURSE CODE: 6287, 6288, 6289, 6290

Competency Number	Competency/Objective	Correlating Page Numbers
62871100	K. DEMONSTRATING SKILLS IN WORKING WITH AC/DC ELECTRIC MOTORS, TRANSFORMERS, AND GENERATORS	
62871101	Demonstrate the operating characteristics of different types of AC/DC motors.	
62871102	Change direction of rotation of electric motors.	
62871103	Describe the basic operation of the AC generator.	43-44
62871104	Describe the construction and operating characteristics of transformers.	45-47, 179-181
62871105	Describe various types of transformer connections and the result of these connections.	179-187