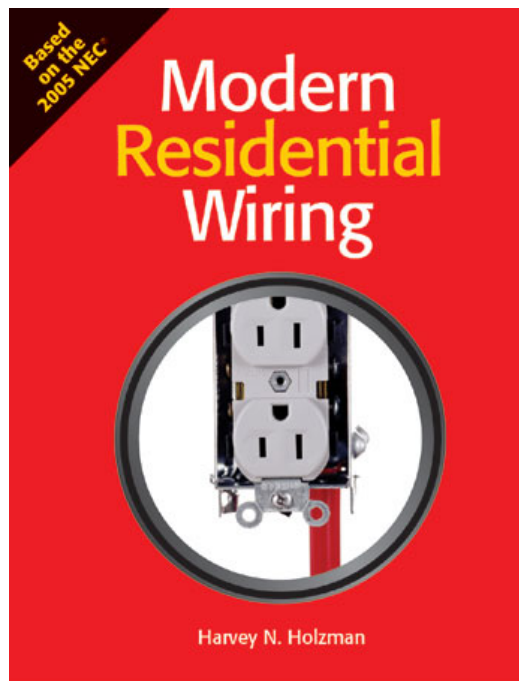




**Goodheart-Willcox Publisher**

**Florida Department of Education  
State Standards Correlation**

**Subject Area: Industrial Education, 6-12**  
**Course: 8727210 Electricity I**  
***Modern Residential Wiring* © 2005**



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**CORRELATION  
FLORIDA DEPARTMENT OF EDUCATION  
COURSE DESCRIPTION**

**SUBJECT:** Industrial  
**COURSE NAME:** Electricity 1  
**SUBMISSION TITLE:** Modern Residential Wiring  
**PUBLISHER:** Goodheart-Willcox Publisher  
**GRADE(S):**

**COURSE CODE NUMBER:** 8727210

OUTCOME NUMBER	BENCHMARK NUMBER	INTENDED OUTCOME/BENCHMARK DESCRIPTION	PAGE(S) OR LOCATION(S) WHERE TAUGHT IN MAJOR TOOL	I/M*
1		<b>IDENTIFY SAFE WORKING CONDITIONS AT THE LABORATORY AND WORKPLACE, AND OBSERVE SAFETY PRECAUTIONS--The student will be able to:</b>		
	1.01	Clean the work area and maintain it in a safe condition.	20-21	I
	1.02	Apply lab policies and procedures for safety, including fire safety.	17-25	I
	1.03	Identify and operate workplace-safety electrical devices.	24, 53-55, 147-163, 175	M
	1.04	Identify health-related problems that may result from exposure to work-related chemicals and hazardous materials, and know the proper precautions required for handling such materials.	15-17	I
	1.05	Demonstrate procedures for disaster situations.	15-17, 23-25	I
	1.06	Demonstrate the proper use and care of hand and power tools and equipment.	51-68, 81, 161	I
	1.07	Demonstrate knowledge of CPR (cardiopulmonary resuscitation) and first aid.	23, 16-17	M
	1.08	Troubleshoot residential electric circuits.	315-320	I
	1.09	Drill holes in metal, wood, and concrete for electrical wiring.	65-66	I
	1.1	Identify and select tools, equipment, materials, and wires to complete a job.	115-128, 136-144, 148-153, 162-163, 165-180, 51-68, 76,80, 82-83, 93-99, 102-112	I
	1.11	Lay out electrical devices, complying with regulations.	115-144, 261-271	I
	1.12	Install the following, complying with the appropriate local, state, or national electric codes:		
a.	Conductors and cable	75-82, 101-112, 125,131-139, 169-173,177	I	
b.	Standard outlets and switch boxes	115-128, 134-145	I	
c.	Explain cord connections on major appliances	225-232	I	

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	d.	Cords switches, receptacles, and dimmers, including a single-pole switched lighting circuit, a three-way switched lighting circuit, and a four-way combination circuit.	125, 134-145, 199-209	I
<b>2</b>		<b>DEMONSTRATE AN UNDERSTANDING OF BASIC DIRECT-CURRENT (DC) ELECTRICAL-CIRCUIT SKILLS-- The student will be able to:</b>		
	2.01	Define the terms "voltage," "current," "resistance," "power," and "energy."	29-32, 40-41	I
	2.02	Measure voltage, amperage, and resistance, using a volt-ohm meter (VOM) and a digital volt-ohm meter (DVM).	53-55, 316-319	I
	2.03	Analyze, and explain a series, series-parallel, and parallel circuit.	33-40	I
	2.04	Draw each type of circuit and calculate the circuit values.	33-40	I
	2.05	Explain and apply Ohm's Law.	34-39	I
	2.06	Compute conductance and resistance of conductors and insulators.	32-35, 102-106, 108-112	I
	2.07	Read and interpret color codes to identify resistors.		
	2.08	Explain voltage dividers (loaded and unloaded).		
<b>3</b>		<b>DEMONSTRATE APPROPRIATE COMMUNICATION SKILLS--The student will be able to:</b>		
	3.01	Ask and answer questions coherently and concisely.		
	3.02	Read and follow written instructions and listen to and follow oral instructions.		
	3.03	Give reports orally and in writing.		
	3.04	Read critically in order to recognize assumptions and implications and to evaluate ideas.		

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	3.05	Find job-related information in technical literature such as a manufacturer's manual.	26, 72-74, 343-346	I
	3.06	Read and interpret the graphs, charts, diagrams and tables commonly used in this industry/occupation area.	103, 105, 109, 111, 337-346	I
	3.07	Communicate job-related information with other trades.	191-198	M
	3.08	Demonstrate appropriate telephone communication skills.		
	3.09	Identify the parts and functions of a computer system.		
	3.1	Identify the uses of the computer, including applications of the computer in the school, home and business.		
	3.11	Perform computer activities by preparing documents with the use of word-processing or database-applications software.		
<b>4</b>		<b>APPLY ELECTRICITY-RELATED BASIC MATH--The student will be able to:</b>		
	4.01	Solve basic-math problems related to electrical work.	34-41, 45-47, 125-127, 181, 195,213,214, 220-221,282-283, 330-340	I
	4.02	Convert units of measurement between the English system and the metric system.		
	4.03	Use scientific notation.		
	4.04	Demonstrate proficiency with a calculator.	334, 340	I
	4.05	Solve basic algebraic formulas related to electricity.	34-41, 334-335	I
	4.06	Solve basic trigonometric functions related to electrical theory.	334-335	I
	4.07	Explain basic AC theory and solve related mathematical problems using appropriate test equipment.	42-44	I
	4.08	Solve math-related problems from measurements on training aids. (Optional)		

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5		<b>DEMONSTRATE AN UNDERSTANDING OF BASIC ELECTRICITY--The student will be able to:</b>		
	5.01	Explain the principles of electromagnetism.	41-45	I
	5.02	Explain the magnetic properties of circuits and devices.	44-45	I
	5.03	Relate electricity to the nature of matter.	28-31	I
	5.04	Describe various ways that electricity is produced.	41-48, 30-31	I
	5.05	Explain molecular action as a result of temperature extremes, chemical reaction, and moisture content.	229	I
	5.06	Draw conclusions or make inferences from data.	315-320	I
	5.07	Explain how voltage is produced by chemical, mechanical, thermal, photoelectric, and piezo electric means.	41, 30-31	I
	5.08	Identify blueprint symbols.	195-197	I
6		<b>DEMONSTRATE EMPLOYABILITY SKILLS--The student will be able to:</b>		
	6.01	Conduct a job search and identify career-growth and advanced-training opportunities, including apprenticeship programs.	321-328	I
	6.02	Secure information about a job.	321-328	I
	6.03	Identify documents that may be required for a job application.	326	M
	6.04	Complete a job-application form.		
	6.05	Demonstrate competence in job-interview techniques.		
	6.06	Demonstrate productive work habits and positive attitudes.		
	6.07	Demonstrate knowledge of how to make job changes appropriately.		
	6.08	Identify ethical practices and responsibilities.		

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	6.09	Demonstrate acceptable personal and professional hygiene.		
	6.1	Apply the principles of time management, work simplification, and teamwork when performing assigned tasks.		
	6.11	Explain the importance of taking pride in the quality of work performed.		
	6.12	Describe the importance of a drug-free workplace and the industry's policies toward drug use.		
	6.13	Describe the ramifications of a poor-driving record on employability opportunities and maintain a good driver's record.		
	6.14	Describe "Right-to-Know" Law as recorded in (29 CFR.1910.1200)		
<b>7</b>		<b>READ AND INTERPRET BASIC ELECTRIC CODES--The student will be able to:</b>		
	7.01	Describe the importance of following the local, state and national electric codes.	26, 71-74	I
	7.02	Read and interpret basic electric codes, wiring plans and specifications.	72, 102-104, 109, 111, 191-221	I
	7.03	Identify licensure requirements for electrical occupations.	72-74	I
<b>8</b>		<b>DEMONSTRATE AN UNDERSTANDING OF ENTREPRENEURSHIP--The student will be able to:</b>		
	8.01	Define "entrepreneurship."		
	8.02	Describe the importance of entrepreneurship to the American economy and the role of small business in the free enterprise system.		

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	8.03	List the advantages and disadvantages of business ownership.	324-325	I
	8.04	Identify the risks involved in the ownership of a business.	324	I
	8.05	Identify the personal characteristics of a successful entrepreneur.	324-325	I
	8.06	Identify the business skills (including computer skills) needed to operate a small business efficiently and effectively.	325	I
<b>9</b>		<b>DEMONSTRATE POSITIVE CUSTOMER-RELATIONS SKILLS--The student will be able to:</b>		
	9.01	Exercise self-control.	324	M
	9.02	Identify and demonstrate appropriate responses to criticism.		
	9.03	Recognize basic human-relations skills as they relate to success in the electrical industry.	324-325	M
	9.04	Resolve customer complaints in a positive, professional manner.		
	9.05	Demonstrate respect for customer property by cleaning the work area after duties are completed.		