

COMMERCIAL & RESIDENTIAL ELECTRICIAN Electrical Systems Technology (Diploma) (D35130)

The Electrical Systems Technology curriculum is designed to provide training for persons interested in the installation and maintenance of electrical systems found in residential, commercial and industrial facilities.

Coursework, most of which is hands-on, will include such topics as AC/DC theory, basic wiring practices, programmable logic controllers, industrial motor controls, applications of the National Electric Code, and other subjects as local needs require.

Graduates should qualify for a variety of jobs in the electrical field as an on-the-job trainee or apprentice, assisting in the layout, installation and maintenance of electrical systems.

COURSE REQUIREMENTS

Richmond Community College provides day and evening course sequences for selected programs to enable students to better plan what courses to take to reach their educational goals. However, given the continued increase in the use of technology in instruction and increasing student demand for distance learning courses, the College may offer hybrid, online, web-based and information highway courses in place of traditional courses in any course sequence that is listed. Therefore, students should be aware of this possibility and prepare themselves to successfully function in a hybrid, online, web-based, or information highway course.

		Class	Lab	Work/ Clinical	Credit	
A. General Education Courses						
1. Required Courses						
ENG	102	Applied Communications II	3	0	0	3
		Social/Behavioral Sciences Elective*	3	0	0	3
B. Major Courses						
1. Core Courses						
<i>To receive a degree, diploma or certificate from RCC, a student must have a grade of "C" or better in all core courses for the program of study.</i>						
ELC	112	DC/AC Electricity	3	6	0	5
ELC	113	Residential Wiring	2	6	0	4
ELC	117	Motors and Controls	2	6	0	4
ELC	128	Introduction to PLC	2	3	0	3
2. Other Major Courses						
ELC	114	Commercial Wiring	2	6	0	4
ELC	118	National Electric Code	1	2	0	2
ELC	119	NEC Calculations	1	2	0	2
ELC	125	Diagrams and Schematics	1	2	0	2
ELC	134	Transformer Applications	1	2	0	2
ELN	229	Industrial Electronics	3	3	0	4
Optional Electives (Required for Solar and Low Voltage Certificates)						
BAT	121	Integrated Multimedia Systems	2	2	0	3
BAT	131	Fire Control System Automation	2	2	0	3

BAT	141	Security System Fundamentals	2	2	0	3
ELC	120	Introduction to Wiring	2	2	0	3
ELC	220	Photovoltaic Systems Technologies	2	3	0	3
ELC	221	Adv Photovoltaic Systems Design	2	3	0	3

C. Other Required Courses

ACA	122	College Transfer Success	0	2	0	1
-----	-----	--------------------------	---	---	---	---

Total Credit Hours **39**

*Approved Electives are listed on the page before the Course Descriptions.

SEMESTER SCHEDULE						
ELECTRICAL SYSTEMS TECHNOLOGY (DIPLOMA) (EVENING)						
			Class	Lab	Work/ Clinical	Credit
First Year – Fall Semester						
ACA	122	College Transfer Success	0	2	0	1
ELC	112	DC/AC Electricity	3	6	0	5
ELC	118	National Electric Code	1	2	0	2
ELC	119	NEC Calculations	1	2	0	2
			—	—	—	—
			5	12	0	10
First Year – Spring Semester						
ELC	113	Residential Wiring	2	6	0	4
ELC	125	Diagrams and Schematics	1	2	0	2
ELC	134	Transformer Applications	1	2	0	2
			—	—	—	—
			4	10	0	8
First Year – Summer Semester						
ENG	102	Applied Communications II	3	0	0	3
		Social/Behavioral Sciences Elective*	3	0	0	3
			—	—	—	—
			6	0	0	6
Second Year – Fall Semester						
ELC	114	Commercial Wiring	2	6	0	4
ELN	229	Industrial Electronics	3	3	0	4
			—	—	—	—
			5	9	0	8
Second Year – Spring Semester						
ELC	117	Motors and Controls	2	6	0	4
ELC	128	Introduction to PLC	2	3	0	3
			—	—	—	—
			4	9	0	7

Total Credit Hours**39**

*Approved Electives are listed on the page before the course descriptions.

**SEMESTER SCHEDULE
ELECTRICAL SYSTEMS TECHNOLOGY (CERTIFICATE) (C35130)**

			Class	Lab	Work/ Clinical	Credit
First Year – Fall Semester						
ELC	112	DC/AC Electricity	3	6	0	5
ELC	118	National Electric Code	1	2	0	2
			—	—	—	—
			4	8	0	7
First Year – Spring Semester						
ELC	113	Residential Wiring	2	6	0	4
ELC	114	Commercial Wiring	2	6	0	4
	or					
ELC	117	Motors and Controls	2	6	0	4
ELC	125	Diagrams and Schematics	1	2	0	2
			—	—	—	—
			5	14	0	10

Total Credit Hours**17**

**SEMESTER SCHEDULE
SOLAR ENERGY (CERTIFICATE) (C35130S)**

			Class	Lab	Work/ Clinical	Credit
First Year – Fall Semester						
ELC	112	DC/AC Electricity	3	6	0	5
ELC	118	National Electric Code	1	2	0	2
ELC	220	Photovoltaic Systems Technologies	2	3	0	3
			—	—	—	—
			6	9	0	10
First Year – Spring Semester						
ELC	119	NEC Calculations	1	2	0	2
ELC	120	Intro to Wiring	2	2	0	3
ELC	221	Adv Photovoltaic Systems Design	2	3	0	3
			—	—	—	—
			5	7	0	8

Total Credit Hours**18**

**SEMESTER SCHEDULE
LOW VOLTAGE (CERTIFICATE) (C35130V)**

			Class	Lab	Work/ Clinical	Credit
First Year – Fall Semester						
BAT	121	Integrated Multimedia Systems	2	2	0	3
ELC	112	DC/AC Electricity	3	6	0	5
ELC	125	Diagrams and Schematics	1	2	0	2
			—	—	—	—
			6	9	0	10
First Year – Spring Semester						
BAT	131	Fire Control System Automation	2	2	0	3
BAT	141	Security System Fundamentals	2	2	0	3
			—	—	—	—
			5	7	0	6
Total Credit Hours						16