Electrical Systems Technology

A35130 (Associate Degree) D35130 (Diploma) C35130A (Certificate) C35130B (Certificate)

This curriculum is designed to provide training for persons interested in the installation and maintenance of electrical/electronic 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, digital electronics, programmable logic controllers, industrial motor controls, the National Electric Code and other subjects as local needs require.

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

In addition to the courses listed below, students may be required to take transition/co-requisite classes based on RISE criteria. These classes do not count toward hours required for graduation.

Associate Degree Program

Title			Class	Lab	Credit
I. General Education Courses					
COM	120	Interpersonal Communications	3	0	3
or					
COM	231	Public Speaking	3	0	3
ENG	111	Writing and Inquiry	3	0	3
*MAT	121	Algebra/Trigonometry I	2	2	3

Select one course each from Humanities/Fine Arts and Social/Behavioral Sciences on page 79.

*Students planning to pursue a Bachelor's degree should take MAT 171, 171A, MAT 172, MAT 172A and MAT 271.

Title			Class	Lab	Credit
II. Major Courses					
ELC	113	Residential Wiring	2	6	4
ELC	128	Introduction to PLC	2	3	3
ELC	131	Circuit Analysis I	3	3	4
ELC	131A	Circuit Analysis I Lab	0	3	1
ELN	231	Industrial Controls	2	3	3
III. Concentration					
ELC	115	Industrial Wiring	2	6	4
ELC	118	National Electric Code	1	2	2
ELC	119	NEC Calculations	1	2	2
ELC	213	Instrumentation	3	2	4
IV. Other Major Courses					
Take 8 credits					
EGR	125	Applied Software for Technology	1	2	2
ISC	112	Industrial Safety	2	0	2
PCI	264	Process Control with PLC's	3	3	4
WBL	111	Work-Based Learning I	0	10	1

WBL	112	Work-Based Learning I	0	20	2
WBL	113	Work-Based Learning I	0	30	3
WBL	114	Work-Based Learning I	0	40	4
WBL	121	Work-Based Learning II	0	10	1
WBL	122	Work-Based Learning II	0	20	2
WBL	123	Work-Based Learning II	0	30	3
WBL	124	Work-Based Learning II	0	40	4
WBL	131	Work-Based Learning III	0	10	1
WBL	132	Work-Based Learning III	0	20	2
WBL	133	Work-Based Learning III	0	30	3
WBL	134	Work-Based Learning III	0	40	4
WBL	211	Work-Based Learning IV	0	10	1
WBL	212	Work-Based Learning IV	0	20	2
WBL	213	Work-Based Learning IV	0	30	3
WBL	214	Work-Based Learning IV	0	40	4

Take 15 credits

ELN	133	Digital Electronics	3	3	4
ELN	233	Microprocessor Fundamentals	3	3	4
HYD	110	Hydraulics/Pneumatics I	2	3	3
PHY	131	Physics-Mechanics	3	2	4

V. Other Required Courses

ACA	115	Success and Study Skills	0	2	1
ACA	220	Professional Transition	1	0	1

Total Credits: 67

Recommended Semester Schedule

First Year-Fall

ACA	115	Success and Study Skills	0	2	1
EGR	125	Appl. Software for Technology	1	2	2
ELC	131	Circuit Analysis I	3	3	4
ELC	131A	Circuit Analysis I Lab	0	3	1
ELN	133	Digital Electronics	3	3	4
HYD	110	Hydraulics/Pneumatics I	2	3	3
ISC	112	Industrial Safety	2	0	2

First Year-Spring

COM or	120	Interpersonal Communications	3	0	3
COM	231	Public Speaking	3	0	3
ELC	128	Introduction to PLC	2	3	3
ELN	231	Industrial Controls	2	3	3
ENG	111	Writing and Inquiry	3	0	3

First Year-Summer

			Class	Lab	Credit
MAT	121	Algebra/Trigonometry I	2	2	3
Humanities/FA Elective-See list on page 76			3	0	3
Social Sciences Elective-See list on page 76			3	0	3

Second Year-Fall

ELC	113	Residential Wiring	2	6	4
ELC	118	National Electric Code	1	2	2
ELC	119	NEC Calculations	1	2	2
ELC	213	Instrumentation	3	2	4
PCI264		Process Control with PLC's	3	3	4

Second Year-Spring

ACA	220	Professional Transition	1	0	1
ELC	115	Industrial Wiring	2	6	4
ELN	233	Microprocessor Fundamentals	3	3	4
PHY	131	Physics-Mechanics	3	2	4

Note: WBL 111, 112, 113, 114, 121, 122, 123, 124, 131, 132, 133, 134, 211, 212, 213, 214 may count for any of the following: EGR 125, ELN 133, HYD 110, ISC 112, PCI 264, ELN 233, PHY 131

Electrical Systems Technology Diploma Program (D35130)

Title			Class	Lab	Credit

I. General Education Courses

ENG	111	Writing and Inquiry	3	0	3
MAT	121	Algebra/Trigonometry I	2	2	3

II. Major Courses

ELC	113	Residential Wiring	2	6	4
ELC	128	Introduction to PLC	2	3	3
ELC	131	Circuit Analysis I	3	3	4
ELC	131A	Circuit Analysis I Lab	0	3	1
ELN	231	Industrial Controls	2	3	3

III. Concentration

ELC	115	Industrial Wiring	2	6	4
ELC	118	National Electric Code	1	2	2

IV. Other Major Courses

Take 4 credits

EGR	125	Applied Software for Technology	1	2	2
ISC 112		Industrial Safety	2	0	2
WBL	111	Work-Based Learning I	0	10	1
WBL	112	Work-Based Learning I	0	20	2
WBL	121	Work-Based Learning II	0	10	1
WBL	122	Work-Based Learning II	0	20	2
WBL	131	Work-Based Learning III	0	10	1
WBL	132	Work-Based Learning III	0	20	2
WBL	211	Work-Based Learning IV	0	10	1

WBL	212	Work-Based Learning IV	0	20	2

Take 4 credits

ELN	133	Digital Electronics	3	3	4

V. Other Required Courses

ACA	115	Success and Study Skills	0	2	1
ACA	220	Professional Transition	1	0	1

Total Credits: 37

Recommended Semester Schedule

First Year-Fall

ACA	115	Success and Study Skills	0	2	1
EGR	125	Appl. Software for Technology	1	2	2
ELC	118	National Electric Code	1	2	2
ELN	133	Digital Electronics	3	3	4
ISC	112	Industrial Safety	2	0	2

First Year-Spring

ELC	115	Industrial Wiring	2	6	4
ELC	128	Introduction to PLC	2	3	3
ELN	231	Industrial Controls	2	3	3

First Year-Summer

ENG	111	Writing and Inquiry	3	0	3
MAT	121	Algebra/Trigonometry I	2	2	3

Second Year-Fall

ACA	220	Professional Transition	1	0	1
ELC	113	Residential Wiring	2	6	4
ELC	131	Circuit Analysis I	3	3	4
ELC	131A	Circuit Analysis I Lab	0	3	1

Electrical Systems Technology Certificate Program (C35130A) Level I

Title			Class/Lab/Credit		

I. Major Courses

ELC	113	Residential Wiring	2	6	4
ELC	115	Industrial Wiring	2	6	4
ELC	118	National Electric Code	1	2	2
ELC	128	Introduction to PLC	2	3	3

Total credits: 13

Recommended Semester Schedule

First Year-Fall

ELC	113	Residential Wiring	2	6	4
ELC	118	National Electric Code	1	2	2

First Year-Spring

ELC	115	Industrial Wiring	2	6	4
ELC	128	Introduction to PLC	2	3	3

Electrical Systems Technology Certificate Program (C35130B) Level II

Title			Class/Lab/Credit		

I. Major Courses

ELC	113	Residential Wiring	2	6	4
ELC	115	Industrial Wiring	2	6	4
ELC	118	National Electric Code	1	2	2
ELC	128	Introduction to PLC	2	3	3
ELC	131	Circuit Analysis I	3	3	4
ELC	131A	Circuit Analysis I Lab	0	3	1

Total credits: 18

Recommended Semester Schedule

First Year-Fall

ELC	113	Residential Wiring	2	6	4
ELC	118	National Electric Code	1	2	2
ELC	131	Circuit Analysis I	3	3	4
ELC	131A	Circuit Analysis I Lab	0	3	1

First Year-Spring

ELC	115	Industrial Wiring	2	6	4
ELC	128	Introduction to PLC	2	3	3