Program Planning Guide

Industrial Systems Technology, Programmable Logic Controllers (C5024030)

Program Length: 4 semesters
Program Sites: Lee Main Campus, Day Program
Career Pathway Options: Associate in Applied Science in Industrial Systems Technology; Diploma in Industrial Systems Technology; Certificate in Programmable Logic Controllers

Suggested Course Schedule		Class	Lab	Work	Credits	Notes:
1st Semester (fall)						
ELC 112	DC/AC Electricity	3	6	0	5	
	Total Semester Hours	**3**	**6**	**0**	**5**	
2nd Semester (spring)						
ELC 128	Intro to PLC	2	3	0	3	
ISC 110	Workplace Safety	1	0	0	1	
	Total Semester Hours	**3**	**3**	**0**	**4**	
3rd Semester (summer)						
ELN 260	Prog Logic Controllers	3	3	0	4	
	Total Semester Hours	**3**	**3**	**0**	**4**	
4th Semester (fall)						
ELC 228	PLC Application	2	6	0	4	
	Total Semester Hours	**2**	**6**	**0**	**4**	
Total Semester Hours Credit Required for Graduation: 17						

Course Descriptions

ELC 112 DC/AC Electricity
This course introduces the fundamental concepts of and computations related to DC/AC electricity. Emphasis is placed on DC/AC circuits, components, operation of test equipment; and other related topics. Upon completion, students should be able to construct, verify, and analyze simple DC/AC circuits.

ELC 128 Introduction to PLC
This course introduces the programmable logic controller (PLC) and its associated applications. Topics include ladder logic diagrams, input/output modules, power supplies, surge protection, selection/installation of controllers, and interfacing of controllers with equipment. Upon completion, students should be able to understand basic PLC systems and create simple programs.

ELC 228 PLC Applications
This course covers programming and applications of programmable logic controllers. Emphasis is placed on programming techniques, networking, specialty I/O modules, and system troubleshooting. Upon completion, students should be able to specify, implement, and maintain complex PLC controlled systems.

ELN 260 Prog Logic Controllers
This course provides a detailed study of PLC applications, with a focus on design of industrial controls using the PLC. Topics include PLC components, memory organization, math instructions, documentation, input/output devices, and applying PLCs in industrial control systems. Upon completion, students should be able to select and program a PLC system to perform a wide variety of industrial control functions.

ISC 110 Workplace Safety
This course introduces the basic concepts of workplace safety. Topics include fire, ladders, lifting, lock-out/tag-out, personal protective devices, and other workplace safety issues related to OSHA compliance. Upon completion, students should be able to demonstrate an understanding of the components of a safe workplace.