ELEC299.41 Course Outline as of Spring 2001

CATALOG INFORMATION

Dept and Nbr: ELEC299.41 Title: PLC'S-MAINT TECHS-1
Full Title: Programmable Logic Controllers for Maintenance Technicians I
Last Reviewed: 10/17/2011

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	2.00	Lecture Scheduled	4.00	8	Lecture Scheduled	32.00
Minimum	2.00	Lab Scheduled	0	2	Lab Scheduled	0
		Contact DHR	0		Contact DHR	0
		Contact Total	4.00		Contact Total	32.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 64.00 Total Student Learning Hours: 96.00

Title 5 Category:	AA Degree Applicable
Grading:	P/NP Only
Repeatability:	04 - Different Topics
Also Listed As:	
Formerly:	

Catalog Description:
Programmable Logic Controllers for the Maintenance Technician, identifica- tion and troubleshooting of typical controller problems, beginning to intermediate ladder logic programming, essentials of working in an industrial environment.

Prerequisites/Corequisites:

Recommended Preparation:

Limits on Enrollment:

Schedule of Classes Information:
Description: Class will meet either in one 4-hour session or two 2-hour sessions for 8 weeks. (P/NP Only)
Prerequisites/Corequisites:
Recommended:
Limits on Enrollment:
Transfer Credit: CSU;

Repeatability: Different Topics

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	**Area**			Effective:	Inactive:
CSU GE:	**Transfer Area**			Effective:	Inactive:
IGETC:	**Transfer Area**			Effective:	Inactive:
CSU Transfer:	Transferable	Effective:	Spring 2004	Inactive:	Fall 2017
UC Transfer:		Effective:		Inactive:	

CID:

Certificate/Major Applicable:
Not Certificate/Major Applicable

COURSE CONTENT

Outcomes and Objectives:
Upon completion of this course the student will be able to, at a beginning to intermediate level:
1. Load and setup software in a control system and make it work properly.
2. Use proper safety procedures in a manufacturing environment.
3. Use proper tagout procedures when working on electrical equipment.
4. Program a PLC (Programmable Logic Controller) using ladder logic.
5. Identify and troubleshoot faults in sensors and output devices.
6. Identify and troubleshoot software problems.

Topics and Scope:

Types of input devices
Types of output devices
Types of controllers
Types of software
Fundamentals of control programs
Basic instructions
Loading software and operating PLCs
Basic tag out procedures
Basic Manufacturing safety
Wiring, DC inputs, AC inputs, Relay Outputs, Transistor outputs

Assignment:

Handouts based on need and preparation for hands-on work.

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Written homework	Writing 1 - 30%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Varies by students proposal.	Problem solving 40 - 70%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Varies by students proposal.	Skill Demonstrations 30 - 70%

Exams: All forms of formal testing, other than skill performance exams.

Varies by students proposal.	Exams 1 - 50%

Other: Includes any assessment tools that do not logically fit into the above categories.

Varies according to Selected Topic.	Other Category 0 - 28%

Representative Textbooks and Materials:
Your Personal PLC Tutor (A guide to understanding PLC's) by Phil Melore, copyright 1999 Phil Melore, (PLCS.net).