COURSE OUTLINE

APPRENTICESHIP PROGRAM / ADVANCED TECHNOLOGY DIVISION

COURSE TITLE	INDUSTRIAL INSTRUMENTATION TECHNICIAN SPECIALIZED CONTROL SYSTEMS 2	COURSE HO PER WEEK:	URS 4
COURSE NUMBER:	APR 2681	Lecture:	4
COURSE CREDITS:	4	Lec/Lab:	
COURSE PREREQUISITES:	Indentured apprentice	Lab:	

COURSE DESCRIPTION:

Designed for Oregon state-recognized apprentices employed in a trade or industry related occupation. This course explores control elements, transducers, and transmitters commonly used in process control. Students will learn a knowledge base consisting of the basic theory, vocabulary, and safety practices commonly used in process-control systems.

GENERAL COURSE OUTCOMES:

Upon completion of this course, the successful student will be able to:	These outcomes will be verified by one or more of the following assessments:	
Address open, closed, and visual loop tuning.	Weekly assignments, Mid-term and Final Examinations.	
Explain how data network devices and computers are interconnected for communication purposes.	Weekly assignments, Mid-term and Final Examinations.	
Describe how open connectivity is used in industrial data networks.	Weekly assignments, Mid-term and Final Examinations.	
Discuss the application of PLCs in industrial process control.	Weekly assignments, Mid-term and Final Examinations.	
Identify components of PLCs, including power supplies, I/O modules and processor modules.	Weekly assignments, Mid-term and Final Examinations.	
Describe how DCS was developed by combining the technologies of single loop control, direct digital control, and supervisory control.	Weekly assignments, Mid-term and Final Examinations.	

<u>COURSE OUTLINE BY MAJOR TOPIC</u>: Process Control Loops and Tuning Data Networks Programmable Logic Controllers Distributed Control Systems