



COURSE OUTLINE: ELR212 - PROCESS CONTROL

Prepared: Frank Musso

Approved: Corey Meunier, Chair, Technology and Skilled Trades

Course Code: Title	ELR212: PROCESS CONTROL
Program Number: Name	4104: INST CONTROL ENG TN
Department:	ELECT./INSTRUMENTATION PS
Semesters/Terms:	20W
Course Description:	This course is a study of process control systems including: single loop, multi-loop, cascade, ratio, feed forward and boiler control. The student will calibrate, adjust, tune, test and maintain these types of control systems.
Total Credits:	5
Hours/Week:	5
Total Hours:	75
Prerequisites:	ELN229
Corequisites:	There are no co-requisites for this course.
Essential Employability Skills (EES) addressed in this course:	EES 1 Communicate clearly, concisely and correctly in the written, spoken, and visual form that fulfills the purpose and meets the needs of the audience. EES 2 Respond to written, spoken, or visual messages in a manner that ensures effective communication. EES 3 Execute mathematical operations accurately. EES 4 Apply a systematic approach to solve problems. EES 5 Use a variety of thinking skills to anticipate and solve problems. EES 6 Locate, select, organize, and document information using appropriate technology and information systems. EES 7 Analyze, evaluate, and apply relevant information from a variety of sources. EES 8 Show respect for the diverse opinions, values, belief systems, and contributions of others. EES 9 Interact with others in groups or teams that contribute to effective working relationships and the achievement of goals. EES 10 Manage the use of time and other resources to complete projects. EES 11 Take responsibility for ones own actions, decisions, and consequences.
Course Evaluation:	Passing Grade: 50%, D
Other Course Evaluation & Assessment Requirements:	Student must pass both written tests and lab tests to pass the source. Grade Definition Grade Point Equivalent A+ 90 - 100% 4.00 A 80 - 89% B 70 - 79% 3.00 C 60 - 69% 2.00



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Books and Required Resources:

Course Outcomes and Learning Objectives:

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		- Identify limitations and problems of feed-forward control systems. - Describe the reasons for feedback trim on a feed-forward system. - Sketch a feed-forward control loop with feedback trim.
	Course Outcome 6	Learning Objectives for Course Outcome 6
	Understand DCS control systems	- Describe the functions of a DSC system - Analyze and troubleshoot DCS analog card - Configure DCS Analog input and output interfacing modules - Configure DCS, PID software advance instructions - Program a DCS to control a single loop process

Evaluation Process and Grading System:	Evaluation Type	Evaluation Weight
	Assignments	10%
	Labs	20%
	Practical Tests	20%
	Written Tests	50%

Date:	December 17, 2019
Addendum:	Please refer to the course outline addendum on the Learning Management System for further information.

