

ELN 214  
Course Number

CONTROL SYSTEMS I

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: Control Systems I

Code No.: ELN 214

Program: ELECTRICAL ENGINEERING TECHNICIAN

Semester: FOUR

Date: August, 1984

Author: R. PALO

New: \_\_\_\_\_ Revision: X

APPROVED:

[Signature]  
Chairperson

24-07-30  
Date

1. Examples of types of control
2. Classification of control systems
3. Criteria for good control
4. Design & instability
5. Objectives of a control system
6. Load changes
7. Advantages of automatic control
8. Open loop & closed loop control
9. Block diagrams

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PHILOSOPHY/GOALS:

To provide a basic understanding of control systems emphasizing servomechanical control.

METHOD OF ASSESSMENT (GRADING METHOD):

1. Written tests will be conducted at regular intervals.

2. Grading

A	-	76	-	100%
B	-	66	-	75%
C	-	56	-	65%
D	-	50	-	55%
R	-	Less than 50%		

70% of course mark is based on tests.

30% of course mark is based on lab work.

TEXTBOOK(S):

None.

REFERENCES:

Introduction to Control System Technology - 2nd Edition - Bateson.

COURSE OUTLINE:

Lecture Hours

Topic

10

1. General Control Theory
  - a. Block diagrams
  - b. Open loop & closed loop control
  - c. Advantages of automatic control
  - d. Load changes
  - e. Objectives of a control system
  - f. Damping & instability
  - g. Criteria for good control
  - h. Classification of control systems
  - i. Examples of types of control



COURSE OUTLINE CONTINUED:

- 10            2. Measuring Means
  - a. Measuring means characteristics
  - b. Position & displacement
  - c. Speed
  - d. Acceleration
  - e. Force & torque
  
- 7            3. Electronic Analog Controllers
  - a. Inverting amplifiers
  - b. Summation with summing amplifiers
  - c. Multiplication by a constant with attenuators
  - d. Solving algebraic equations
  - e. Integration with integrating amplifiers
  - f. Analog computer symbols
  - g. Generation of a function
  
- 6            4. Final Control Elements
  - a. Solid state control components
  - b. Stepping motors
  - c. Stepper motor control
  - d. Armature controlled DC motor
  - e. 2 phase AC motors & selsyns
  - f. Rotating amplifiers

