

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE: AUTOMATED CONTROL SYSTEMS
CODE NO.: ELR 315 - 6
PROGRAM: ELECTRICAL TECHNOLOGY
SEMESTER: SIX
DATE: JANUARY 1989
AUTHOR: ENO LUDAVICIUS

NEW: _____ REV.: X

APPROVED:

J.P. Crozatt
CHAIRPERSON

90/08/15
DATE

CALENDAR DESCRIPTION

AUTOMATED CONTROL SYSTEMS
COURSE NAME

ELR 315 - 6
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PHILOSOPHY/GOALS:

THE STUDENT WILL DEVELOP THE UNDERSTANDING OF AUTOMATED CONTROL SYSTEMS & TOOLS FOR FACTORY AUTOMATION.

THIS DEVELOPMENT WILL INCLUDE FLEXIBLE MANUFACTURING SYSTEM CONTROL WITH THE STATE OF THE ART HARDWARE AND SOFTWARE CONTROLLERS. THE STUDENT WILL ALSO INTERFACE COMPUTER CONTROL TO ROBOTIC WORKCELL.

METHOD OF ASSESSMENT (GRADING METHOD):

THE STUDENT WILL BE ASSESSED IN THE FOLLOWING MANNER:

- 1) THREE WRITTEN TESTS TOTALING 45%.
- 2) ASSIGNMENTS & PROJECTS TOTALING 55%.

TEXTBOOKS & JOURNALS

- 1) TAYLOR LADDER LOGIC DEVELOPMENT SERIES FOR PLC
- 2) AB MINI PLC 2/30 PROGRAMMABLE CONTROLLER MANUAL
- 3) PROGRAMMABLE CONTROLS - THE USER MAGAZINE
- 4) CAD/CAM & ROBOTICS BY KERRWILL PUBLICATION
- 5) IEEE JOURNAL OF ROBOTICS AND AUTOMATION
- 6) AMATROL MANUALS - HERCULES ROBOT & WORKCELL
- 7) AMERICAN ROBOT - MERLIN SYSTEM OPERATORS GUIDE
- 8) CONTROL ENGINEERING
- 9) CANADIAN ELECTRONIC ENGINEERING
- 10) COMPUTER INTEGRATED MANUFACTURING - By P.G. RANKY
- 11) INTRODUCTION TO CONTROL SYSTEMS TECHNOLOGY
- By BATESON
- 12) PROCESS CONTROL INSTRUMENTATION TECHNOLOGY
- By C.D. JOHNSON

GENERAL OBJECTIVES

1) BLOCK 1 - OVERVIEW OF CONTROL SYSTEM TECHNOLOGY

- 1.1) EVALUATION OF CONTROL SYSTEMS.
- 1.2) TYPES OF CONTROL SYSTEMS.
- 1.3) MEASURING MEANS & CHARACTERISTICS.
- 1.4) CONTROL COMPONENTS & COMPUTERS.

2) BLOCK 2 - FLEXIBLE MANUFACTURING SYSTEM CONTROL

- 2.1) THE FLEXIBLE MANUFACTURING CONTROL CONCEPT.
- 2.2) FMS SYSTEM ARCHITECTURE.
- 2.3) FMS SYSTEM COMPONENTS & DEVICES.
- 2.4) FMS OPERATIONAL CONTROL.

3) BLOCK 3 - TOOLS FOR FACTORY AUTOMATED CONTROL SYSTEMS

- 3.1) PROGRAMABLE CONTROLLER SUPPORT SOFTWARE.
- 3.2) ALLEN BRADLEY CIM NETWORK.
- 3.3) MODICON 984 PLC CONTROLLERS AND FM1800 CELL CONTROLLER.
- 3.4) THE FIX - FULLY INTEGRATED CONTROL SYSTEM FROM INTELLUTION.

