

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: SIMULATION
Code No.: CET 310-6
Program: COMPUTER ENGINEERING TECHNOLOGY
Semester: SIX
Date: JANUARY 1986
Author: ENO LUDAVICIUS

New: _____ Revision: _____ X

APPROVED: *R.P. Crozietts* Chairperson Date _____

SIMULATION

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CET 310-6

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PHILOSOPHY/GOALS:

The objective of this course is to develop the student's ability to use the computer as a modelling tool for industrial and scientific research. The student will also study the mathematical basis of system simulation and learn to use the simulation language - General Purpose Simulation Systems.

Block 1 - INTRODUCTION TO SIMULATION AND GPSS LANGUAGE

At the end of this block the student shall be able to:

- 1) Define the terminology associated with simulating systems.
- 2) Discuss the different types of models and the basic concepts of model building.
- 3) Discuss the basic concepts and organization of Simulation Study.
- 4) Describe the fundamental concepts of GPSS language.
- 5) Implement basic modelling concepts in GPSS.

Block 2 - THE COMPLETE GPSS LANGUAGE

At the end of this block the student shall be able to:

- 1) Define and describe the following GPSS statements:
 - a) Control
 - b) Block-Definition
 - c) Entity-Definition
 - d) Attribute
 - e) Indirect Addressing
- 2) Implement the following GPSS special programs:
 - a) Report Program
 - b) Help Program
 - c) Debug Programs
- 3) To run programming examples.

Block 3 - STUDY OF SIMULATION MODELS

At the end of this block the students shall be able to:

- 1) Discuss the simulation of an Automatic Warehouse.
- 2) Discuss the simulation of a Teleprocessing System.
- 3) Discuss the planning of simulation experiments.
- 4) Discuss the general summary of the GPSS language.

METHOD OF ASSESSMENT (GRADING METHOD):

The student will be assessed in the following manner:

- 1) Three (3) written tests worth 20% each.
- 2) Programming assignments worth 10%.
- 3) One (1) major simulation project worth 30% and evaluated as on attached sheet.

TEXTBOOK(S):

Simulation Using GPSS - Thomas J. Schriber
P. P. Wiley