

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

COURSE OUTLINE

COURSE TITLE: MATHEMATICS

CODE NO.: MTH 122-4 SEMESTER: III

PROGRAM: COMPUTER PROGRAMMER

AUTHOR: J. GLOWACKI

DATE: AUGUST 19 92 PREVIOUS OUTLINE DATED: JUNE 19 91

APPROVED:

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DATE

MATHEMATICS

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TOTAL CREDIT HOURS: 64

PREREQUISITE(S): MTH 111

I. PHILOSOPHY/GOALS:

This course presents the mathematics needed in computer programming. Concepts taught will also assist in other computer courses. Emphasis is placed on how to interpret a problem and to develop a solution algorithm. The computer will be used to obtain output for specified problems.

II. STUDENT PERFORMANCE OBJECTIVES:

The basic objectives are that the student develop an understanding of the methods studied, demonstrate a knowledge of the facts presented and show an ability to use these in the solution of problems. To accomplish these objectives, exercises are assigned. Test questions will be of near equal difficulty to questions assigned in the exercises. The level of competency demanded is the level required to obtain an overall passing average on the tests. The material to be covered is listed below.

III. TOPICS TO BE COVERED:

1. Sets and Venn Diagrams
2. Integers and Real Numbers
3. Format Arithmetic
4. Algorithms
5. Algebraic Applications for Programming
6. Number Base Concepts

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IV. LEARNING ACTIVITIES:

REQUIRED RESOURCES:

TIME	UNIT	TOPIC	EXERCISES
		Chapter 17, 18	
		BINARY SYSTEMS	Pg. 246-292
		- number base concepts	
		- binary, octal and hexadecimal	
10		Chapter 1, 2, 3	
		NUMBER SYSTEMS	Pg. 1-52
		- sets and Venn diagrams	
		- integer and real number sets	
		- format arithmetic	
		Chapter 4, 5	
		ALGORITHMS	Pg. 53-79
		- input, process and output	
		- repeating steps and decisions	
10		Chapter 7, 8, 9, 10	
		ALGEBRAIC APPLICATIONS FOR PROGRAMMING	Pg. 96-136
		- order of operations	
		- inequalities	
		- exponents	
		- equation solving	
		Chapter 11, 12	
		ADVANCED ALGEBRA CONCEPTS	Pg. 202-245
		- arithmetic and geometric sequences	
		- matrices	

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V. EVALUATION METHODS: (INCLUDES ASSIGNMENTS, ATTENDANCE REQUIREMENTS ETC.)

The final mark will be based on four unit tests, each representing 25% of the final mark.

GRADING:

- A+ = 90-100%
- A = 80-89%
- B = 65-79%
- C = 55-64%
- R = 0-54%

A passing grade will be based on a minimum grading of 55%. Students obtaining a grade of 45-54% may be allowed to write a rewrite test. However, only students who have attended at least 80% of the math classes will be considered for a rewrite test.

VI. REQUIRED STUDENT RESOURCES:

Introduction to Statistics - 2nd ed.
Concepts & Applications
- Anderson, Sweeney & Williams

VII. SPECIAL NOTES:

Students with special needs (e.g. physical limitations, visual impairments, hearing impairments, learning disabilities) are encouraged to discuss required accommodations confidentially with the instructor.

Your instructor reserves the right to modify the course as he/she deems necessary to meet the needs of students.