SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

Sault College

COURSE OUTLINE

COURSE TITLE:	HIGH LEVEL LANGUAGE PROGRAMMING		
CODE NO. :	CET331	**SEMESTER:**	5
PROGRAM:	ELECTRICAL/ELECTRONICS TECHNOLOGY		
AUTHOR:	DOUG FAGGETTER		
DATE:	SEPT. 2001	**PREVIOUS OUTLINE DATED:**	SEPT. 2000
APPROVED:			

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                              DEAN   **DATE**

TOTAL CREDITS:	5
PREREQUISITE(S):	CET228
HOURS/WEEK:	4

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I.   COURSE DESCRIPTION:

This course will introduce students to high-level language programming by using
"C++", to solve technical problems. Program development will use a PC based
compiler.

II.   LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course the student will demonstrate the ability
to:

1)   Write well structured C++ source code to solve a variety of technical
      problems.

      Potential Elements of the Performance:
      - Input and Output from a C++ program.
      - Declare variables in a program.
      - Apply the fundamentals of the C++ language with the use of
         *if statements, if-else statements, for loops, while loops, do-while loops,
         switches*
       - Write source code in a modular form with the use of function calls.
      - Make use of pointers in C++ code.
      - Make use arrays in C++ code.
      - Make use of string manipulation in C++ code.
      - Input and output to the floppy disk from the C++ program.

2)   Apply all of the steps of program development to writing effective C++
      programs.

      Potential Elements of the Performance:
      - Enter source code for program.
      - Compile the program.
      - Run the program.
      - Debug the program.
      - Link multiple object files.

3)   Analyze the essential elements of Object-Oriented Programming in a C++
      environment.

      Potential Elements of the Performance:
      - Define and recognize Classes and Objects
      - Recognize and understand the use of Constructors and Destructors

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- Recognize and understand the use of Private and Public members
- Recognize and understand the use of Inheritance, Virtual Functions
  and Pure Virtual Functions.

III.   TOPICS:

1)   C++ Fundamentals

2)   Structured Programming

3)   Relational operators (*if* statement, *if-else* statement, *switch* function)

4)   Looping (*for* loop, *while* loop, *do-while* loop)

5)   Pointers, Scope and Class

6)   Strings

7)   Numeric Arrays

8)   Data Structures

9)   Classes and Objects

10)   Disk I/O

IV.   REQUIRED RESOURCES/TEXTS/MATERIALS:
An Introduction to Programming Using C++
by Kenneth C. Mansfield Jr. and James L. Antonakos

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V. EVALUATION PROCESS/GRADING SYSTEM:

The grading weight will be:
  Theory 75%
  Lab 25%

The following semester grades will be assigned to students in
postsecondary courses:

Grade	Definition	Grade Point Equivalent
A+	90 - 100%	4.00
A	80 - 89%	3.75
B	70 - 79%	3.00
C	60 - 69%	2.00
R (Repeat)	59% or below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field placement or non-graded subject areas.	
U	Unsatisfactory achievement in field placement or non-graded subject areas.	
X	A temporary grade. This is used in limited situations with extenuating circumstances giving a student additional time to complete the requirements for a course (see *Policies & Procedures Manual – Deferred Grades and Make-up*).	
NR	Grade not reported to Registrar's office. This is used to facilitate transcript preparation when, for extenuating circumstances, it has not been possible for the faculty member to report grades.	

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VI.   SPECIAL NOTES:

Special Needs:
If you are a student with special needs (e.g. physical limitations, visual
impairments, hearing impairments, or learning disabilities), you are
encouraged to discuss required accommodations with your instructor
and/or the Special Needs office. Visit Room E1204 or call Extension 493,
717, or 491 so that support services can be arranged for you.

Retention of course outlines:
It is the responsibility of the student to retain all course outlines for possible
future use in acquiring advanced standing at other postsecondary
institutions.

Plagiarism:
Students should refer to the definition of "academic dishonesty" in *Student
Rights and Responsibilities*. Students who engage in "academic
dishonesty" will receive an automatic failure for that submission and/or
such other penalty, up to and including expulsion from the course/program,
as may be decided by the professor/dean. In order to protect students
from inadvertent plagiarism, to protect the copyright of the material
referenced, and to credit the author of the material, it is the policy of the
department to employ a documentation format for referencing source
material.

Course outline amendments:
The Professor reserves the right to change the information contained in
this course outline depending on the needs of the learner and the
availability of resources.

Substitute course information is available in the Registrar's office.

VII.   PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should
consult the professor. Credit for prior learning will be given upon
successful completion of a challenge exam or portfolio.

VIII.   DIRECT CREDIT TRANSFERS:

Students who wish to apply for direct credit transfer (advanced standing)
should obtain a direct credit transfer form from the Dean's secretary.
Students will be required to provide a transcript and course outline related
to the course in question.