# SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

# SAULT STE. MARIE, ONTARIO

## COURSE OUTLINE

Course Outline:  INTRO TO FOURTH GENERATION LANGUAGES

Code No.:  CSD206

Program:  PROGRAMMER

Semester:  Four

Date:  January 1997

Previous Outline
Dated:  January, 1996

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APPROVED:  _____       91 01 03
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# INTRO TO 4TH GENERATION LANGUAGES     CSD206

Course Name                                    Course Number

PREREQUISITES: CSA101

LENGTH OF COURSE: 4 HOURS PER WEEK

TOTAL CREDITS: 5

## I. PHILOSOPHY/GOALS:

The course is designed to give the student an awareness of the principles behind the design of fourth generation application solutions. (Prototyping and RAD).

There will be indepth explanations in the use of the POWERHOUSE product components and how to build applications.
The following topics will be covered during the course:  PHD Data Dictionary, QUICK, QUIZ, QTP and customizing screens.

The second half of the course will focus on MicroSoft's Visual Basic 4.0 product, that the students will use to write Windows programs.

## II. STUDENT PERFORMANCE OBJECTIVES:

1.   Develop applications using Powerhouse with a Prototyping methodology.

2.   Develop applications using Visual Basic 4.0 with a RAD methodology.

## III. TOPICS TO BE COVERED:

1.   Prototyping/RAD
2.   Cognos's Powerhouse 6.0
3.   MicroSoft's Visual Basic 4.0 Pro

## IV. LEARNING ACTIVITIES:

## MODULE 1 POWERHOUSE

Upon completion of this module the student will have learned to:

1.   understand what POWERHOUSE is

2.   recognize the major components that make up the POWERHOUSE product

3.   have an understanding of a data dictionary

- understand how to develop a data dictionary
- make entries into the data dictionary

4. describe the components of QUICK
    - create QUICK screens

5. write QUIZ reports that report on selected groups in sorted order
    - differentiate between the SELECT and CHOOSE statements

6. understand a Prototyping approach to application development

7. understand what should be contained in a POWERHOUSE data dictionary
    - be able to create and maintain a data dictionary suitable for complex applications
    - recognize steps to incorporate data into a POWERHOUSE application

8. use QSHOW
    - list dictionary contents on printer
    - retain QSHOW source statements

9. choose file types for QUICK screens
    - identify source code of QDESIGN
    - design QUICK screens

10. create screen layouts which permit data for more than one record to be entered on a screen
    - design screens in horizontal and vertical manner

11. create screen layouts which permit data for more than one record to be entered on a screen
    - design screens in horizontal and vertical manner

12. control the prompting for field values
    - supply HELP messages to fields

13. implement a menu hierarchy of screens
    - pass data from one screen to another
    - run operating system commands from QUICK

14. identify the differences between the various file types available to QUICK screens
    - understand about QUICK initialization

15. design QUIZ reports with headings and footings
    - obtain totals for specific categories of information

16. produce reports with statistical information
    - structure reports by category
    - produce reports that produce summary information only

## MODULE 2 VISUAL BASIC 4.0

Upon completion of this module the student will have learned to:

1.  Learn their way around Visual Basic
        Know what is in the program
        Drop controls onto a form
        Use the tool box
        Change properties
        Save projects

2.  Design a VB program
        Put ideas onto the screen
        Use common interfaces

3.  Build a VB program
        Perform data input
        Run programs

4.  Allow user to enter text
        Handle multiple lines of text
        Scroll text
        Set boundaries on user input

5.  Change fonts

6.  Add pictures to programs
        Change a picture with code

7.  Limiting Input with Checkboxes and Option Buttons.

8.  Allow more input choices with List Boxes and Combo Boxes.

9.  Group Controls into Containers

10. Use Scrool Bars and Spin Buttons

11. Enhance programs with Custom Menus

12. Communicate with the User through Dialog Boxes

13. Add Variables to the VB program

14. Handle Basic Math functions

15. Make decisions made upon Data Comparisons
        Use the operators


## V.  REQUIRED RESOURCES:

1.  Powerhouse Notes sold in Book Store, Cognos developed
2.  Using Visual Basic 4, The Fast and Easy Way to Learn, by Michael
    McKely

## VI. METHOD OF EVALUATION:

The student's final grade will be determined from the following components:

| | | |
|---|---|---|
| Tests (2@30%) | = | 60% |
| Assignments (4@10%) | = | 40% |
| | | 100% |

## GRADING:

| | | |
|---|---|---|
| A+ | - | 90-100% |
| A | - | 80- 89% |
| B | - | 70- 79% |
| C | - | 60- 69% |
| R | - | 0- 60% |

## NOTE:

Students are expected to attend classes regularly, participate in class discussions, conduct themselves and treat their peers and instructors in a professional business-like manner throughout any school dealings.

Any student who misses a test will receive a grade of zero on that test unless they either produce a doctor's certificate if ill, or have the instructor's permission to write the test on a pre-arranged date and time.

Late assignments are subject to a zero grade unless the student has prior permission from the instructor to hand the assignment in at a later date. There will be no re-writes in this course.