SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: **System Prototyping and Presentation I**

Course No.: **CSD300**

Program: **Computer Programmer/Analyst**

Semester: **Five**

Author(s): **Willem de Bruyne**

Date: **September 1998**

Previous
Outline Dated: **May 1997**

APPROVED: K. DeRosario Sept. 10/98
Dean Date

TOTAL CREDITS: 5

PREREQUISITES: CSD206, CSD204

LENGTH OF COURSE: 4 HOURS PER WEEK

I. COURSE DESCRIPTION:

It has been stated that two of the most severe problems facing Information Systems today is the increasing backlog of service request and decline in user confidence. The reasons for these problems stem from the traditional methodologies of developing systems which are not meeting these needs. The students have studied in detail the traditional development life cycle of business information systems. They are, therefore, prepared to study new methodologies such as prototyping and RAD, along with its apparent advantages of pleasing users, reducing development costs, decreasing communication problems, and so on. The industry is swinging towards prototyping and using tools such as Fourth and Fifth Generation Languages, and RAD tools, which prepares the student to meet these new challenges.

A Community Value Added component of the course may be incorporated within the assignment work. The instructor will try to secure a project that will involve designing and developing a computer based system to a non-profit organization. The class will be divided up into small work teams to begin the design phase of the life cycle of the project and complete the development at the end of semester six in the follow up course.

II. TOPICS TO BE COVERED:

1. **REVIEW MODULE**
2. **VISUAL BASICIS FEATURES**
3. **ALTERING PROPERTIES AT RUN TIME**
4. **ADDITIONAL FEATURES OF VISUAL BASIC 5**
5. **ACTIVE X CONTROLS**
6. **VBA FOR EXCEL**
7. **CODING, DEBUGGING, AND DOCUMENTINGVISUAL BASIC PROGRAMS**
8. **VISUAL BASIC VARIABLES**
9. **PROGRAM DECISION**
10. **PROGRAM LOOPING**
11. **DATA ARRAYS**
12. **CONTROL ARRAYS**
13. **LISTBOXES AND COMBOBOXES**
14. **BUILT-IN FUNCTIONS**
15. **DATABASE APPLICATIONS**
16. **SEQUENTIAL FILES**
17. **RANDOM ACCESS AND BINARY FILES**
18. **CRYSTAL REPORTS**

III. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

A. Learning Outcomes and Elements of the Performance:

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

1. REVIEW MODULE

Elements of the performance:

- Understand what Visual Basic 5 is?
- Demonstrate and use Visual Basic's Main Components
- Understand Key Terms You Should Know
- Be able to Designing a User Interface
- Set Property Values
- Writing Code and Running the Program
- Saving, Opening, and Modifying a Project
- Printing Form Image, Form Text, and Code

2. VISUAL BASICIS FEATURES

Elements of the performance:

- Understand all of the Visual Basic Objects
- Setting Object Properties
- Understand Naming Conventions
- Use Font, Color, Picture, Visible, and Enabled Properties

3. ALTERING PROPERTIES AT RUN TIME

Elements of the performance:

- Change Property Values with Code
- Perform Drag-and-Drop Techniques
- Use Special Techniques with Forms

4. ADDITIONAL FEATURES OF VISUAL BASIC 5

Elements of the performance:

- Demonstrate how to Manage Controls
- Use the CommandButtons
- Create Labels
- Create TextBoxes
- Create ScrollBars
- Create InputBoxes and MessageBoxes

5. ACTIVE X CONTROLS

Elements of the performance:

- Understand What ActiveX Controls are?
- Use The Calendar Control
- Use The CommonDialog Control
- Use The RichTextBox Control
- Use The MSChart Control
- Use The Multimedia Control
- Use The MaskedEdit Control

6. VBA FOR EXCEL

Elements of the performance:

- Demonstrate Excel's Form Controls
- Be able to Set Control Properties
- Demonstrate the use of Dialog Boxes
- Understand VBA Coding

7. CODING, DEBUGGING, AND DOCUMENTING VISUAL BASIC PROGRAMS

Elements of the performance:

- Demonstrate and Manage the Code Window
- Write Code
- Use Editing Tools
- Be able to Debug Visual Basic Programs
- Demonstrate Program Documentation

8. VISUAL BASIC VARIABLES

Elements of the performance:

- Variables and Values
- Operators and Precedence
- Variables and Data Types
- Scope of variables
- Formatting Output

9. PROGRAM DECISION

Elements of the performance:

- The Concepts of Program Flow and Structured Code
- If-Then Statements
- Select Case Statements
- Creating Subroutines and On-Error Statements

10. PROGRAM LOOPING

Elements of the performance:

- Looping with For-Next Statements
- Looping with Do Loops
- Breaking an Infinite Loop with DoEvents

11. DATA ARRAYS

Elements of the performance:

- One-DimensionalArrays
- Two-DimensionalArrays
- Declaring Array Variables

12. CONTROL ARRAYS

Elements of the performance:

- Four Methods of Creating Control Arrays
- Experimenting with Control Arrays
- Three Examples of Control Arrays

13. LISTBOXES AND COMBOBOXES

Elements of the performance:

- ListBoxes
- Further Examples of ListBoxes
- Drive ListBoxes, Directory ListBoxes, and File ListBoxes
- ComboBoxes

14. BUILT-IN FUNCTIONS

Elements of the performance:

- An Overview of Built-In Functions
- Financial Functions
- Date-Time Functions
- Math Functions
- String Functions

15. DATABASE APPLICATIONS

Elements of the performance:

- Computer Records
- Record Structures, and Record Keys
- Using the Data Control to View File Records
- Using the Data Form Wizard to Create Database Applications
- Using Data Control Methods
- Using the Data Manager to Create a New, Database File
- Error Trapping

16. SEQUENTIAL FILES

Elements of the performance:

- Creating Sequential Files
- Using TextBoxes, CheckBoxes, and List Boxes with Sequential Files
- Programming Tools for Sequential Files

17. RANDOM ACCESS AND BINARY FILES

Elements of the performance:

- Creating Random Access Files
- Using Random Access Files: An Example
- Random Access File Commands
- Binary Files

18. CRYSTAL REPORTS

Elements of the performance:

- Getting Started
- Creating Reports with Computations

IV. EVALUATION METHODS:

The mark for this course will be arrived at as follows:

Test #3	60%
Assignments	40%
	100%

The student will be penalized 2% each time they are late or absent from class, or if they fail to complete assigned lab exercises unless prior permission from the instructor is granted.

The grading scheme used will be as follows:

A+	90 - 100%	Outstanding achievement
A	80 - 89%	Excellent achievement
B	70 - 79%	Average achievement
C	60 - 69%	Satisfactory achievement
R	Repeat	
X	Incomplete.	

V. SPECIAL NOTES

1. In order to pass this course the student must obtain an overall **test/quiz** average of 60% or better.

2. Assignments must be submitted by the due date according to the specifications of the instructor. Late assignments will normally be given a mark of zero. Late assignments will only be marked at the discretion of the instructor in cases where there were extenuating circumstances.

3. The instructor reserves the right to modify the assessment process to meet any changing needs of the class. Consultation with the class will be done prior to any changes.

VI. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the instructor.

VII. REQUIRED STUDENT RESOURCES

1. Applications Programming in Visual Basic 5, 2nd ed., Mark G. Simkin