

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE MARIE, ON



COURSE OUTLINE

Course Title: Advanced Visual Basic

Code No.: CSD300

Semester: Five

Program: Computer Programmer/Analyst

Author: Willem de Bruyne

Date: Sept. 1999

Previous Outline Date: Sept. 1998

Approved: _____
Dean Date

Total Credits: 5

Prerequisite(s): CSD206, CSD204

Length of Course: 16 WKS

Total Credit Hours: 80

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I. COURSE DESCRIPTION:

It has been stated that two of the most severe problems facing Information Systems today is the increase backlog of service requests, and a decline in user confidence. The reasons for these problems stem from the 'traditional methodologies' of developing computer based systems which are not meeting these needs.

So far the students have studied in detail the Traditional Development Life Cycle of business information systems. The students are now ready to study new methodologies such as Prototyping, and RAD (Rapid Application Development). These new methodologies have the advantage of pleasing users, reducing development time, decreasing communication problems, and so on. Industry is now beginning to adopt Prototyping and using the tools to foster it, such as Visual Basic. This course will concentrate on these new methodologies and new RAD tools.

A Community Value Added component of the course will be incorporated within the assigned work. The instructor will secure a project that will involve the Design, Development, and the Implementation of a computer based system to either a non-profit organization or a small business within Sault Ste. Marie.

The class will be divided into small teams to begin the design phase of the project this semester, as well as part of the development phase which will continue into the following semester.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

0) Review the T.S.D.L.C. and Prototyping

Potential Elements of the Performance:

- Understand what Methodologies are, and when and why applied.
- Fully understand the Traditional Systems Development Life Cycle
- Fully understand the Prototyping Methodology to system design and development

1) Create one and multi-dimensional arrays.

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Potential Elements of the Performance:

- Create and manipulate one-dimensional arrays; computing test averages, storing alphabetic data, finding the largest and smallest elements in a list, etc.
- Create and manipulate two-dimensional arrays; computing the average of two tests, creating a multi-dimensional budget
- Declaring array variables, using Dim, ReDim, and Static Statements

2) Create Control Arrays

Potential Elements of the Performance:

- Understand the four methods of creating a control array; cutting and pasting, using the same control name, changing index properties, creating control arrays with code,
- Experimenting with control arrays, using the index of a control array.
- Work through three examples of a control array.

3) Work with ListBoxes and ComboBoxes

Potential Elements of the Performance:

- Use ListBox properties at design and run time
- Add, remove and clear items in a ListBox
- Understand the ItemData and NewIndex Properties
- Work through examples of ListBoxes; selecting screen fonts, copying elements from one ListBox to another, perform computations.
- Create Drive ListBoxes, Directory ListBoxes, and File ListBoxes and manipulate their properties.
- Create ComboBoxes; creating three styles
- Manipulate the ComboBox properties and methods.

4) Manipulate Visual Basics Built-In Functions

Potential Elements of the Performance:

- Use the Financial functions to perform various calculations such as depreciation costs, loan payments, investment returns....
- Use the Date-Time functions
- Use the Math functions
- Use the String functions

5) Use the Data Control, Data Form Wizard, and Data Manager to manipulate DataBase Applications

Potential Elements of the Performance:

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- Understand record structures, and record keys.
- Use the Data Control to view file records
- Use the Data Form Wizard to create database applications
- Use the Data Control Methods
- Use the Data Manager to create a new database file
- Perform error trapping, testing for blank fields, validating ranges and codes

6) **Create and Manipulate Sequential Files and Random Access and Binary Files**

Potential Elements of the Performance:

- Create Sequential Files
- Use TextBoxes, CheckBoxes, and ListBoxes with Sequential Files
- Create Random Access Files
- Use Random Access Files, and commands
- Use Binary Files

7) **Create Crystal Reports**

- Report Planning
- Creating a simple report
- Crystal Reports,,: Basics
- Selecting Records
- Sorting and Grouping Records
- Graphing
- Use the Crystal Formula Language
- Create subreports
- Create Cross-Tab and Summary reports

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III. TOPICS:

0. Review the T.S.D.L.C. and Prototyping
1. Create one and multi-dimensional arrays.
2. Create Control Arrays
3. Work with ListBoxes and ComboBoxes
4. Manipulate Visual Basics Built-In Functions
5. Use the Data Control, Data Form Wizard, and Data Manager to manipulate DataBase Applications
6. Create and Manipulate Sequential Files and Random Access and Binary Files
7. Create Crystal Reports

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Books to be announced
Instructor Handouts

V. EVALUATION PROCESS/GRADING SYSTEM

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

Test 1	30%
Test 2	30%
Assignments	<u>40%</u>
	100%

Grading Scheme:

A+ 90–100% (Outstanding)
A 80–89% (Excellent)
B 70–79% (Average)
C 60–69% (Satisfactory)
R (Repeat)
X (Incomplete)

VI. SPECIAL NOTES:

- Students will receive a grade of zero for late assignments unless prior permission is granted from the instructor.
- Students are expected to attend classes on a regular bases and treat their peers and instructors in a business like manner.
- Students are expected to inform the instructor via phone or e-mail if they are unable to attend class, 2% penalty for each infraction.

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- Students missing a test will receive a grade of zero unless prior permission is granted from the instructor.

VII. PRIOR LEARNING ASSESSMENT

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