

**SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY**

**SAULT STE. MARIE, ONTARIO**



**COURSE OUTLINE**

<b>COURSE TITLE:</b>	Advanced Visual Basic.NET		
<b>CODE NO. :</b>	CSD300	<b>SEMESTER:</b>	Four
<b>PROGRAM:</b>	Computer Programmer/Analyst		
<b>AUTHOR:</b>	Willem deBruyne		
<b>DATE:</b>	January, 2015	<b>PREVIOUS OUTLINE DATED:</b>	January, 2014
<b>APPROVED:</b>	"Colin Kirkwood"		Dec/14
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	Dean		<b>DATE</b>
<b>TOTAL CREDITS:</b>	5		
<b>PREREQUISITE(S):</b>	CSD206, CSD204		
<b>HOURS/WEEK:</b>	16 WKS	Total Credit Hours: 80	

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School of Environment, Technology and Business

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**I. COURSE DESCRIPTION:**

1. This course is an extension of the CSD206 Visual Basic introductory course that covered the basics of Visual Basic.NET programming. More advanced programming will be dealt with such as: Using Arrays and File Handling, Incorporating databases with ADO.NET 4.0, Multiple Classes and Inheritance, Creating Web Applications, and Using Procedures and Exception Handling. The course focuses on hands-on, so there will be plenty of do-it-yourself features throughout the course.

**II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:****1. Using Procedures and Exception Handling****Potential Elements of the Performance:**

- Create a splash screen
- Pause the splash screen
- Add a ComboBox object to a Windows Form
- Write Code for a SelectedIndexChanged event
- Code a Sub procedure
- Pass an argument to a procedure by value
- Pass an argument to a procedure by reference
- Create a class- level variable
- Catch an exception using a Try- Catch block

**2. Using Arrays and File Handling****Potential Elements of the Performance:**

- Initialize an Array
- Initialize an Array with default values
- Access array elements using a loop
- Use ReDim to resize an array
- Initialize two-dimensional arrays
- Read a text file
- Calculate depreciation
- Use multiple Form objects
- Access Variable objects on other forms

### **3. Incorporating databases with ADO.NET 4.0**

#### **Potential Elements of the Performance:**

- Understand database files
- Connect to a database using ADO.NET 4.0
- Use multiple database types
- Connect Form objects to the data source
- Bind database fields to the Window Form object
- Access database information on a Windows Form object
- Add & delete records
- Select records from a list
- Program beyond the Database Wizard
- Create the OleDbDataAdapter object
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### **4. Multiple Classes and Inheritance**

#### **Potential Elements of the Performance:**

- Use the TabIndex property
- Edit input, including a masked textbox, and combo box
- Describe the three-tier program structure
- Understand a class
- Create a class
- Instantiate an object
- Pass arguments when instantiating an object
- Write a class constructor
- Call a procedure in a separate class
- Code a base class and a subclass incorporating inheritance
- Call procedures found in a base class and a subclass
- Write overridable and overrides procedures
- Create and write a comm.-delimited text file

### **5. Creating Web Applications**

#### **Potential Elements of the Performance:**

- Create a Web application
- Build a Web form using ASP.NET 4.0
- Set Web form properties
- Add objects to a Web form
- Add a DropDownList object
- Add a Calendar object

- Add a custom table layout
- Validate data on Web forms
- Use the <br> tag in VB code
- Use String Manipulation methods in the String class

### **III. TOPICS:**

- Using Arrays and File Handling
- Incorporating databases with ADO.NET 4.0
- Multiple Classes and Inheritance
- Creating Web Applications
- Using Procedures and Exception Handling

### **IV. REQUIRED RESOURCES/TEXTS/MATERIALS:**

MICROSOFT Visual Basic 2012 for Windows, Web, Office and Database Applications. Comprehensive *Authors: Shelly, Hoisington*

**V. EVALUATION PROCESS/GRADING SYSTEM:**

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

<b>Quizzes 3</b>	<b>@ 20%</b>
<b>Attendance &amp; Part.</b>	<b>@ 4%</b>
<b>Assign 3</b>	<b>@ 12%</b>
	<b>100%</b>

<u>Grade</u>	<u>Definition</u>	<u>Grade Point Equivalent</u>
A+	90 – 100%	4.00
A	80 – 89%	
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% and below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area.	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.	
NR	Grade not reported to Registrar's office.	
W	Student has withdrawn from the course without academic penalty.	

## VI. SPECIAL NOTES:

### Attendance:

Sault College is committed to student success. There is a direct correlation between academic performance and class attendance; therefore, for the benefit of all its constituents, all students are encouraged to attend all of their scheduled learning and evaluation sessions. This implies arriving on time and remaining for the duration of the scheduled session.

- ◆ **You must attain a minimum of 60% on your quizzes in order to receive a passing grade in this course.**

The professor reserves the right to adjust the mark up or down 5% based on attendance, participation, leadership, creativity and whether there is an improving trend.

A minimum of **80% attendance** required in the labs and lectures.

- Students must complete and pass both the test and assignment portion of the course in order to pass the entire course.
- All Assignments must be completed satisfactorily to complete the course.
- Late hand in penalties will be a zero grade unless you have prior permission from the instructor
- Makeup Tests are at the discretion of the instructor and will be assigned a maximum grade of 50%.
- The professor reserves the right to adjust the number of tests, practical tests and quizzes based on unforeseen circumstances. The students will be given sufficient notice to any changes and the reasons thereof.
- A student who is absent for 3 or more times without any valid reason or effort to resolve the problem will result in action taken.

NOTE: If action is to be taken, it will range from marks being deducted to a maximum of removal from the course.

**Eligibility for X Grades/Upgrading of Incompletes** When a student's course work is incomplete or final grade is below 50%, there is the possibility of upgrading to a pass when a student meets all of the following criteria: The student's attendance has been satisfactory. An overall average of at least 50% has been achieved. The student has not had a failing grade in all of the theory tests taken. The student has made reasonable efforts to participate in class and complete assignments.

Note: **The opportunity for an X grade is usually reserved for those with extenuating circumstances.** The nature of the upgrading requirements will be determined by the instructor and may involve one or

more of the following: completion of existing labs and assignments, completion of additional assignments, re-testing on individual parts of the course or a comprehensive test on the entire course.

**Labs:**

Lab activities represent a very important component of this course in which practical 'hands-on' skills will be developed. Because of this, attendance is mandatory and the satisfactory completion of all lab activities is required. Evaluation of lab work in-class will be done. It is the student's responsibility to discuss absences from regularly scheduled labs with the instructor so that alternate arrangements (where possible) can be made to complete the lab requirements.

**Attendance:**

Absenteeism will affect a student's ability to succeed in this course. Absences due to medical or other unavoidable circumstances should be discussed with the professor. Students are required to be in class on time and attendance will be taken within the first five minutes of class. A missed class will result in a penalty in your marks unless you have discussed your absence with the professor as described above. Unauthorized absences could result in a zero grade being assigned. The penalty depends on course hours and will be applied as follows:

<b>Course Hours</b>	<b>Deduction</b>
5 hrs/week (75 hrs)	1% / hr
4 hrs/week (60 hrs)	1.5% /hr
3 hrs/week (45 hrs)	2% /hr
2 hrs/week (30 hrs)	3%/hr

Absentee reports will be discussed with each student during regular meetings with Faculty Mentors. Final penalties will be reviewed by the professor and will be at the discretion of the professor.

**Electronic Devices in the Classroom:**

Students who wish to use electronic devices in the classroom will seek permission of the faculty member before proceeding to record instruction. With the exception of issues related to accommodations of disability, the decision to approve or refuse the request is the responsibility of the faculty member. Recorded classroom instruction will be used only for personal use and will not be used for any other purpose. Recorded classroom instruction will be destroyed at the end of the course. To ensure this, the student is required to return all copies of recorded material to the faculty member by the last day of class in the semester. Where the use of an electronic device has been approved, the

student agrees that materials recorded are for his/her use only, are not for distribution, and are the sole property of the College.

**VII. COURSE OUTLINE ADDENDUM:**

This document (**CourseOutlineAddendum.docx**) can be found along with the course outline on *Desire2Learn (D2L)*.