



EFFECTIVE: MAY 2003 **CURRICULUM GUIDELINES**

A. Division: **Instructional** Effective Date: January 2003

B. Department / Revision: New Course:
 Program Area: **Computing Science**

 If Revision, Section(s)
 Revised: **H, O,Q**

 Date of Previous Revision: **Fall 2001**

 Date of Current Revision: **November 18, 2002**

C: **CMPT 101** D: **Introduction to Programming Using Visual Basic** E: **3**

Subject & Course No.	Descriptive Title	Semester Credits						
<p>F: Calendar Description:</p> <p style="padding-left: 40px;">This course introduces students to a programming environment and language. Time is initially spent learning about hardware and software components of a computer system, files and directories/folders management in Windows and the software cycle. Most of the course is spent on object-based programming and fundamental building blocks for programming in Visual Basic 6. Topics cover forms, controls, properties management, events and event handlers, data types including arrays, control structures, functions and procedures.</p>								
<p>G: Allocation of Contact Hours to Type of Instruction / Learning Settings</p> <p>Primary Methods of Instructional Delivery and/or Learning Settings:</p> <p>Lecture / Laboratory</p> <p>Number of Contact Hours: (per week / semester for each descriptor)</p> <table style="margin-left: 40px; border: none;"> <tr><td>Lectures</td><td>2 hours / week</td></tr> <tr><td>Laboratory</td><td>2 hours / week</td></tr> </table> <p>Number of Weeks per Semester: 15</p>	Lectures	2 hours / week	Laboratory	2 hours / week	<p>H: Course Prerequisites: MATH 101 with a minimum grade of C or Math 12 with a minimum grade of C</p>			
	Lectures	2 hours / week						
	Laboratory	2 hours / week						
	<p>I: Course Corequisites: None</p>							
<p>J: Course for which this Course is a Prerequisite: CMPT 110</p>								
	<p>K: Maximum Class Size:</p> <table style="margin-left: 40px; border: none;"> <tr><td>Lectures</td><td>34</td></tr> <tr><td>Laboratory</td><td>34</td></tr> </table>	Lectures	34	Laboratory	34			
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Laboratory	34							
<p>L: PLEASE INDICATE:</p> <table style="margin-left: 20px; border: none;"> <tr><td style="border: 1px solid black; width: 20px; height: 20px;"></td><td>Non-Credit</td></tr> <tr><td style="border: 1px solid black; width: 20px; height: 20px;"></td><td>College Credit Non-Transfer</td></tr> <tr><td style="border: 1px solid black; width: 20px; height: 20px; text-align: center;">X</td><td>College Credit Transfer:</td></tr> </table> <p>SEE BC TRANSFER GUIDE FOR TRANSFER DETAILS (www.bccat.bc.ca)</p>				Non-Credit		College Credit Non-Transfer	X	College Credit Transfer:
	Non-Credit							
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M: Course Objectives / Learning Outcomes:

Students should be able to

- Create, locate, move, copy and delete a file or folder in Windows
- Create, navigate, and delete folder tree structure in Windows
- Understand the process of program design and development
- Design a GUI by using objects (forms and controls) and managing properties of controls
- Design a program to solve a well-defined problem
- Implement a program from a design using structured programming

To implement a program a student should be able to

- Understand what a form is, how to create it, and be familiar with the properties of a form
- Understand what menus are and how to add them to a form
- Understand what objects are, and be able to add controls to a form
- Understand the properties of a control and explore the events that can occur with a control
- Differentiate among the various data types
- Distinguish between variables and constants, and understand how to include them in programs
- Select appropriate scope for a variable, differentiate between variables that are global to a project and those visible only to a form
- Perform number and string manipulations including the use of built-in procedures
- Learn how to accept input through boxes
- Format values for output using formatting functions and output boxes
- Understand the purpose of procedures and be able to write reusable code in Sub procedures and Function procedures
- Understand the role of parameters and be able to differentiate between value and reference parameters
- Evaluate conditions using the relational operators and combine conditions using logical operators
- Understand and code selection logic using IF-THEN and SELECT CASE statements
- Understand and code looping routines DO-WHILE, DO-UNTIL, and FOR-NEXT
- Understand what arrays are and use one-dimensional arrays to hold data
- Pass arrays between procedures

N: Course Content:

The course content below applies to both the lecture and the lab. As they have equal contact time and are in phase.

1. Introduction to computers
 - 1.1. Hardware and software components of a computer system
 - 1.2. Levels of languages
2. Windows
 - 2.1. Files and folders management
3. Programming in general
 - 3.1. Program development cycle
 - 3.2. Programming tools – flowcharts, pseudocode
4. Programming in Visual Basic
 - 4.1. Forms, controls, properties, events
 - 4.2. Numbers, variables, constants
 - 4.3. Strings
 - 4.4. Input and output using text boxes
 - 4.5. Built-in functions – numeric functions, strings functions
5. Procedures
 - 5.1. Sub procedures
 - 5.2. Function procedures
 - 5.3. Scope of variables
 - 5.4. Value and reference parameters

<ul style="list-style-type: none"> 6. Decisions <ul style="list-style-type: none"> 6.1. Relational and logical operators 6.2. IF-THEN blocks 6.3. SELECT CASE blocks 7. Repetitions <ul style="list-style-type: none"> 7.1. DO-WHILE and DO-UNTIL loops 7.2. FOR-NEXT loops 8. One-dimensional arrays <ul style="list-style-type: none"> 8.1. Creating and accessing arrays 8.2. Passing arrays between procedures 										
<p>O: Methods of Instruction:</p> <p>There are three components to the course: lectures, labs, and self directed learning (i.e. programming assignments)</p> <p>The lecture is used to introduce new material, usually via a sequence of theoretical concepts and examples. The textbook is to be used as an additional source of study material, problems, and examples.</p> <p>The two-hour weekly lab parallels the lecture by considering the application of new material.</p> <p>Assignments are marked according to correctness of the algorithms, efficiency, and programming style.</p>										
<p>P: Textbooks and Materials to be Purchased by Students:</p> <ul style="list-style-type: none"> ▪ Schneider, D.I., <u>An Introduction to programming Using Visual Basic 6.0</u>, Fourth Edition, Prentice Hall, ISBN 0-13-936428-5 ▪ Portfolio for Programming Assignments ▪ Two 3 ½ “ high density diskettes 										
<p>Q: Means of Assessment:</p> <p>Evaluation will be carried out in accordance with Douglas College policy. The instructor will present a written course outline with specific evaluation criteria at the beginning of semester. Evaluation will be based on some of the following:</p> <table border="0" style="width: 100%;"> <tr> <td>labs (12 to 14)</td> <td style="text-align: right;">15% - 30%</td> </tr> <tr> <td>assignments (3 to 4)</td> <td style="text-align: right;">15% - 25%</td> </tr> <tr> <td>tests (1 to 2) @ 15% - 30% each</td> <td style="text-align: right;">15% - 60%</td> </tr> <tr> <td>final examination</td> <td style="text-align: right;">25% - 40%</td> </tr> <tr> <td>class participation₁</td> <td style="text-align: right;">0% - 5%</td> </tr> </table> <p>Note #1: participation includes (but is not limited to) short pop-quizzes and/or attendance</p>	labs (12 to 14)	15% - 30%	assignments (3 to 4)	15% - 25%	tests (1 to 2) @ 15% - 30% each	15% - 60%	final examination	25% - 40%	class participation ₁	0% - 5%
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class participation ₁	0% - 5%									
<p>R: Prior Learning Assessment and Recognition: specify whether course is open for PLAR</p> <p>Not at this time.</p>										

Course Designer(s): _____

Education Council / Curriculum Committee Representative: _____

Dean / Director: _____

Registrar: _____