



**Catholic  
Memorial**  
HIGH SCHOOL

## Year Long Course Plan

**Department: Computer Science**

**Course: Visual Basic Programming I 480**

**Essential Learning Outcomes:** After successfully completing this course, students will be able to:

1. Communicate their knowledge of computer operations, capabilities and limitations for both hardware and software.
2. Identify hardware components
3. Create well structured event-driven applications in Visual Basic 2005 IDE, run and debug
4. Add objects and menus to a form
5. Demonstrate logical problem solving strategies, both not using the computer and using the computer.
6. Demonstrate the use of decision structures to control the flow of a program
7. Generate random numbers and use them appropriately
8. Demonstrate the use of repetition control structures
9. Write sub procedures and functions for specific tasks
10. Manipulate characters in a String
11. Create an application with multiple forms and animation.

<b>Quarter 1</b>	<b>Quarter 2</b>
<p><b>Unit 1: Overview of Computer Technology (ELO 1, 2)</b></p> <ul style="list-style-type: none"> <li>• Computer Hardware</li> <li>• Programming languages</li> <li>• History of computer science</li> <li>• Networks</li> <li>• Social and ethical implications of computer use</li> <li>• <b>ASSESSMENT: Written quiz/paper</b></li> </ul> <p><b>Unit 2: Introduction to the Visual Basic IDE (ELO 3, 4)</b></p> <ul style="list-style-type: none"> <li>• Visual Basic environment, interface</li> <li>• Change property values at design time and run-time</li> <li>• Event-driven application</li> <li>• Controls and objects</li> <li>• Saving and running a program</li> <li>• Assignment statements</li> <li>• Arithmetic operators and numerical expressions</li> <li>• comments</li> <li>• Using IntelliSense</li> <li>• Code conventions</li> <li>• <b>ASSESSMENT: Written Test</b></li> </ul> <p><b>Unit 3: Variables, constants and data types (ELO 3,</b></p>	<p><b>Unit 5: Controlling Program Flow with Looping Structures (ELO 3, 4, 5, 6, 7, 8, 10)</b></p> <ul style="list-style-type: none"> <li>• <b>Repetition control</b></li> <li>• <b>Logic of the loop structure</b></li> <li>• <b>Do..Loop statement</b></li> <li>• <b>Pretest vs. posttest</b></li> <li>• <b>For..next statement</b></li> <li>• <b>String class manipulation</b></li> <li>• <b>Char structure</b></li> <li>• <b>Inputboxes</b></li> <li>• <b>Counters vs. accumulators</b></li> <li>• <b>Infinite loops</b></li> <li>• <b>Unicode</b></li> <li>• <b>ASSESSMENT: Written Test and programs</b></li> </ul> <p><b>Unit 6: Use of Procedures, Functions and Graphics (ELO 3, 4, 5, 6, 7, 8, 9)</b></p> <ul style="list-style-type: none"> <li>• <b>Sub procedures</b></li> <li>• <b>Adding images to applications</b></li> <li>• <b>Changing images at run time</b></li> <li>• <b>Value parameters</b></li> <li>• <b>Reference parameters</b></li> <li>• <b>functions</b></li> <li>• <b>ASSESSMENT: Written Test and programs</b></li> </ul>

4, 5)

- Declaring and using variables
- Input information
- Built-in data types
- Syntax vs. logic errors
- Scope
- Life time of a variable
- Identifiers, keywords and rules
- constants
- **ASSESSMENT: Written Test and programs**

**Unit 4: Controlling program flow with decision structures**  
**ELO(3, 4, 5, 6, 7)**

- The if..then statement
- The if..then..else statement
- Nested if..then..else statements
- Select..case statement
- Algorithms
- Static variables
- Boolean expressions and compound Boolean Expressions
- Messageboxes, check boxes
- Counters
- Generating random numbers
- **ASSESSMENT: Written Test and programs**

**Unit 7: Graphics and Animation**  
**(ELO 3, 4, 5, 6, 7, 8, 9, 11)**

- Using color
- ColorDialog control
- Stationary animation
- Moving animation
- Changing size of object
- The graphics class
- Drawing shapes
- Multiple forms

**ASSESSMENT: Written Test and project**