

<b>Course Title:</b>	<b>Computer Programming</b>
<b>Head of Department:</b>	Ms. Maria Azfar
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<b>Cycle/Division:</b>	High School
<b>Grade Level:</b>	12
<b>Credit Unit:</b>	0.5 Credits
<b>Duration:</b>	1/2 Year (1 Semester) 10 Periods Per 2 Weeks
<b>Course Prerequisites:</b>	NIL

<b>Department's Vision:</b>	<ul style="list-style-type: none"> <li>Preparing students to participate creatively in the establishment, sustenance and growth of a rapidly developing and changing digital world.</li> </ul>
<b>Department's Mission:</b>	<ul style="list-style-type: none"> <li>Imparting practical and theoretical knowledge by hands on digital devices to develop the ability to use up to date computing skills of technology that will help them excel in all subjects as well as everyday life.</li> </ul>

**COURSE DESCRIPTION:**

**VB.Net:** Students will learn the basics of this High-level programming language, from Microsoft Visual Studio, that is suitable for most development needs. The language uses Visual Studio IDE to develop the design page with codes appropriately to be used with the form elements.

**PARADIGM COMPUTERS:** Students will be introduced to various theory topics which will improve their basic knowledge about Using Programming Concepts and Languages.

**GENERAL COURSE LEARNING OBJECTIVES:**

**VB.Net**

The students will be able to:

- Understand of the program algorithm, process, and structure
- Understand and identify the fundamental concepts of object-oriented programming

- Understand and use the concepts of objects, primitive value, message, method, selection control structure, repetition control structures, object reference, container, and method parameter.
- Know how to write and run a complete program.

### Theory

The students will be able to:

- List the steps in the software development life cycle.
- Define the basic concepts of computer programming.
- Describe the techniques and tools used in programming.
- Identify several programming languages and list their strengths and weaknesses.
- Explain the programming tools available for web applications and content.

## I.

### STANDARDS/BENCHMARKS:

#### **6-8.CI. Creativity and Innovation**

2. Create an original project (e.g., presentation, web page, newsletter, information brochure) using a variety of media (e.g., animations, graphs, charts, audio, graphics, video) to present content information to an audience.

#### **6-8.CC. Communication and Collaboration**

identify effective uses of technology to support communication with peers, family, or school personnel

#### **9-12.CC. Communication and Collaboration**

6. use technology tools for managing and communicating personal information (e.g., finances, contact information, schedules, purchases, correspondence)

#### **9-12.CT. Critical Thinking, Problem Solving, and Decision Making**

1. use digital resources (e.g., educational software, simulations, models) for problem solving and independent learning.

#### **9-12.RI. Research and Information Fluency**

1. distinguish between fact, opinion, point of view, and inference

#### **6-8.TC. Technology Operations and Concepts**

8. discuss possible uses of technology to support personal pursuits and lifelong learning

**9-12.TC. Technology Operations and Concepts**

4.describe uses of various existing or emerging technology resources (e.g., podcasting, webcasting, videoconferencing, online file sharing, global positioning software)

**II.**

**RESOURCES:**

- ✓ VB.NET Teacher’s Resource
- ✓ Visual Studio 8
- ✓ Computers - Understanding Technology
- ✓ ICT Lab
- ✓ Projector
- ✓ USB
- ✓ Surface Pro
- ✓ FROGOS
- ✓ Server Space

**III.**

**COURSE OUTLINE:**

**Semester 1:**

1	<b>Chapter 1: Getting Started with Microsoft Visual Basic (VB.NET)</b>	• Introduction to Visual Studio
		• Introduction to VB.net
		• Introduction to Tool Box, Solution
		• Explorer, Designer Window, Code Window.
		• A Simple VB.net program
2	<b>Chapter 2: Visual Basic Data Types and Variables (VB.NET)</b>	• Declaring Variables
		• Declaring Variables

3	<b>Chapter 3: Using mathematical Operators</b> (VB.NET)	<ul style="list-style-type: none"> <li>Arithmetic Operators</li> <li>Programming a simple calculator.</li> <li>Compiling and debugging.</li> <li>Programming using all the operators.</li> </ul>
4	<b>Chapter 4: Decision Making using If...Then...Else</b> (VB.NET)	<ul style="list-style-type: none"> <li>Conditional operators</li> <li>Logical Operators</li> <li>If...Then:- Syntax, flowchart and programs</li> <li>If..Then...Else:- Syntax, flowchart and programs</li> </ul>
5	<b>Chapter 5: Using the Select Case Structure</b> (VB.NET)	<ul style="list-style-type: none"> <li>Syntax</li> <li>FlowChart</li> <li>Programs</li> </ul>
6	<b>Chapter 6: Looping</b> (VB.NET)	<ul style="list-style-type: none"> <li>Syntax and Flow chart of For..Next loop</li> <li>Syntax and Flow chart of Do..Loops</li> <li>Syntax and Flow chart of While...End While Loop</li> <li>Programs based of these</li> </ul>
<b>Chapter's #</b>	<b>Chapter (Theory)</b>	<b>Lesson(s)</b>
11	Chapter 11: Using Programming Concepts and Languages (Paradigm Computers)	<ul style="list-style-type: none"> <li>Describing the Software Development Life Cycle</li> <li>Understanding Programming Terms and Concepts</li> <li>Applying Programming Techniques and Tools</li> <li>Evaluating Programming Languages</li> <li>Developing for the Web and Mobile Environments</li> </ul>

## IV.

### GRADING:

#### Grading Policy/ Assessment Tools:

- Quiz
- Graded Classwork
- Graded Worksheet
- Project
- Portfolio
- Class Participation

#### ➤ Grade Distribution:

<u>Semester 1</u>	
<u>Assessment</u>	<u>Points/Weight</u>
Quiz	15
Graded Classwork	15
Graded Worksheet	10
Project	10
Portfolio	10
Class Participation	10
Exam	30

#### Cross-Curricular Project(s):

1 Project in a semester that is integrated with two or more subjects.