CENTRAL UNIVERSITY

DEPARTMENT OF COMPUTER SCIENCE AND INFO. TECH.

**COURSE SYLLABUS**

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| **Course Title** | **: Visual Basic Programming** |
| **Course Code** | **: COMP 204** |
| **Credit Hours** | **: 3 Hours** |
| **Level** | **: 200** |
| **Programme** | **: BSc Computer Science** |
| **Name of Lecturer** | **: James Anani Amezi** |
| **Contact of Lecturer** | **: 0244544355** |
| **Email of Lecturer** | **: aamezi@central.edu.gh** |
| **Office Hours** | **: Monday – Friday 8am – 5pm** |

**Course Information**

**Course Description:**

This course advances students’ knowledge in skills in programming using some features of Microsoft .Net framework. It focuses on one of the programming languages within the framework VB.Net. The course treats the common language runtime technology and common type system as the fundamental features of the .Net framework, and the basic programming constructs as they are defined in VB.Net. Students will learn to use the .NET Framework class library to efficiently create and manage strings, arrays, collections, and enumerators. Object-oriented programming concepts and implementation will be discussed in this course. The course also introduces students to windows form and design controls. The course continues with an introduction to ASP.Net and Database connectivity.

**Special Application to be used:**

1. Microsoft Visual Studio 2022 Community Edition
2. Microsoft SQL Server 2014 or 2017 Community Edition (or MySQL Server)
3. Crystal Reports (Visual Studio Limited Edition)

**Overall Course Aim (s):**

To equip students with the ability to develop robust desktop applications using the.NET Framework language of Visual Basic.

**Learning Outcomes**

Upon completion of this course, the student should be able to:

1. Appreciate the potential of the .NET Framework in software development.
2. Design and develop robust desktop, windows-form based applications using the .NET Framework.
3. Integrate Visual Basic or with MS SQL Server to develop database applications.

**Teaching Methods**

1. Face to face classroom lecture
2. Practical/Lab Work
3. Assignments, Presentations and Classwork

**Resource & Reading Materials**

1. **Zak, D. (2017) Programming with Microsoft Visual Basic 2017 (8th edition). Cengage Learning**
2. Guide, J., M. (2010). Microsoft Visual Studio 2010: A Beginner's Guide, (1st ed.). McGraw-Hill
3. Rod, S. (2011). *Start Here! Fundamentals of Microsoft .NET Programming*, (1st ed.). Microsoft Press
4. Andrew, T. (2008). *Pro VB 2008 and the .NET 3.5 Platform (Expert's Voice)*, (3rd ed.). Publisher: Apress.
5. Andrew, T. & Vidya, V., A. (2010). *Pro VB 2010 and the .NET 4.0 Platform*, (1st ed.). Publisher: Apress

**Student Assessment System**

The College operates a combination of continuous assessment and end-of-semester examination system with the following weightings:

End-of-Semester Examination - 60%

Continuous Assessment - 40%

The continuous assessment component consists of the following:

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| Continuous Assessment System | Grade Assigned (%) |
| Attendance | 5 |
| Mid Semester | 20 |
| Presentation | 5 |
| Class Assignment | 10 |
| Total | 40 |

# Guiding Policies and Regulations of the Course Delivery

**Academic Dishonesty**

All work submitted must be your own produced exclusively for this course. The use of someone else’s work, paraphrases, graphs or charts without proper citation is considered as plagiarism and will result in a “zero” for the assignment and may result in a failing grade for the class. The offender shall appear before the Academic Disciplinary Committee for an appropriate penalty. Please refer to the academic integrity statement in the Student Handbook, Academic and Behavioral Standards section.

Use of Electronic Devices: “Multi-tasking” in class (doing email, texting, surfing the web, etc.) diminishes participation and learning. Cell phones must be switched off or put on the silent setting. Laptops are to be used in class for notes taking only.

**Course Policy / Requirements**

Format for Written Work:

All written work should conform to APA 6th edition Format.

***All Students must come to class with their laptops for practical work.***

**Attendance and Class Participation:**

It is important that each student comes to class prepared to engage in class activities. Two unexcused absences will attract 10% deduction of your final grade.

**Late Submission of Assignment:**

Any assignment turned in later than their due date will attract 10% deduction of marks gained in that assignment per each day of lateness.

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| **Weekly** | **Learning Content (Main and Sub-topics)** | **Learning Objectives** |
| **Wk1** | An Introduction to Visual Studio 2022 and Visual Basic | Become familiar with the Visual Studio Interface |
| **Wk2** | Planning Applications and Designing Interfaces | The steps for planning a Windows Forms application. You will also learn how to design interfaces that follow the Windows standards, including assigning access keys and setting the tab order for the controls. |
| **Wk3** | Coding with Variables, Named Constants, and Calculations | How to use variables and named constants. You will also learn how to write an assignment statement that performs a calculation and then assigns the result to a variable. |
| **Wk4** | The Selection Structure | How to direct the computer to make a decision before it selects the next instruction to process in a procedure. |
| **Wk5** | The Repetition Structure | How programmers direct the computer to repeat one or more instructions a specified number of times or either while or until a condition evaluates to true. |
| **Wk6** | Sub and Function Procedures | Defining and connecting multiple objects and events to the same procedure. |
| **Wk7** | String Manipulation | How to manipulate string data in code |
| **Wk8** | 1. Arrays 2. Mid-Sem Exams | How to create an array of variables |
| **Wk9** | Sequential Access Files and Menus | How read data from and write data to a file on a disk. How to create and use a special type of file, called a sequential access file and use them in applications. |
| **Wk10** | Classes and Objects | Defining classes and then use them to instantiate objects in an application. |
| **Wk11** | SQL Server Databases | How to create computer databases and then use them in applications |
| **Wk12** | Database Queries with SQL | How to perform common database tasks, such as editing, adding, deleting, and saving records as well as performing calculations on fields. |
| **Wk13** | Web Site Applications | How to create Website applications using Visual Studio along with a technology called ASP.NET. |
| **Wk14** | Revision |  |
| **Wk15** | End of Semester Exams |  |
| **Wk16** | End of Semester Exams |  |
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