University of Embu
Department of Computing and Information Technology (CIT)

Course code: SIT 221 **Course Title: Event Driven Programming**

Semester: First **Academic year:** 2024/2025

Course Purpose

The purpose of this course is to introduce students to visual programming concepts using Microsoft Visual Basic.Net by exposing them to graphical user interfaces, event driven programming and windows on-screen objects.

Expected Learning Outcomes

At the end of the course, the learner should be able to:

1. Demonstrate knowledge of a high-level block-structured programming language.
2. Demonstrate use of data types and classes in program and systems development.
3. Demonstrate knowledge of object-oriented, event-driven programming and systems development.
4. Demonstrate ability to design graphical user interfaces (GUI) in Visual Basic utilizing appropriate design concepts.
5. Demonstrate ability to code Visual Basic arithmetic instructions, conditional statements, repetition structures, sub procedures, and control arrays in programs.

Course Outline (Topics and subtopics)

Week/ Date	Lecture Topic	Remarks
1: 15 Jan	Theory behind Structured & Event Driven Programming. Data, objects, classes, GUI.	
2: 22 Jan	Introduction to Visual Studio .NET IDE: - Windows Graphical User Interface - Window = Form - Toolbox of elements called Controls - Event Driven (VB 6.0 and previous) - Object Oriented Programming (VB.NET) - Visual Studio Environment	

3: 29 Jan	Visual Studio Controls - Controls in the Toolbox - Properties	
4: 5Feb	Visual Studio Controls - Methods and events	
5: 12 Feb	Data types and declarations - Variables, Constants - Mathematical operators statements - MessageBox Object	
6: 19 Feb	CAT 1 Decisions and Conditions - Relational Operators for building Conditions - If/Then selection structure - While Repetition Structure - Do While/Loop repetition structure - Do Until/Loop repetition structure	
7: 26 Feb	Menus, Sub Procedures and Sub Functions - Menu Designer, SubMenus - Sub-procedures, functions and parameters, Constants	
8: 5 Mar	Menus, Sub Procedures and Sub Functions - Creating & Using Sub Procedures - Functions versus Sub Procedures	
9: 12 Mar	Strings, Arrays, Sequential Files	
10:19 Mar	CAT 2	
11: 26 Mar	OOP: Creating Object-Oriented Programs - Class and Instance - Encapsulation - Inheritance - Polymorphism and Overloading	
12: 2 Apr	Database applications - ADO .NET Object Model - Programming with ADO .NET - Extracting Information from a DBMS, - Connecting to and Querying - Access Data Source	
13: 9 Apr	Revision	
14 & 15:	Examination	

Assessment

CATs (30%)	- Practical reports - Assignments - Sit in CATs - Take away cats
End of semester examination: (70 %)	

Reference Textbooks

1. Liberty, J., & Grundgeiger, D. (2003). Programming Visual Basic .NET. Beijing: OReilly.
2. Hoisington, C. (2018). Microsoft Visual Basic 2017: For windows, web, and database applications; comprehensive. Australia : Cengage Learning

Recommended Reference Materials

1. Bradley, J., Millspaugh (2005). A.; Programming in Visual Basic.NET; McGraw Hill, ISBN 0-07-297039-1
2. Steven Holzner, (2003). "SAMS Teach Yourself Microsoft Visual Basic .NET in 21Days, 2nd Ed", Sams Publishing.
3. Liberty, J., & Hurwitz, D. (2002). Programming ASP.NET. Sebastopol, CA: O'Reilly.

Reference Journals

1. …
2. …

Useful web pages

1. https://www.guru99.com/vb-net-tutorial.html..

Name of Lecturer: Michael Ndege Kinyua **Sign:** **Date:**