

**COLLIN COUNTY COMMUNITY COLLEGE DISTRICT  
DIVISION OF BUSINESS, ENGINEERING, AND INFORMATION TECHNOLOGY**

**COURSE SYLLABUS**

**Course Number:** ITSE 2334

**Course Title:** Advanced Visual Basic .NET Programming with ASP .NET

**Credit Hours:** 3      **Lecture Hours:** 3      **Lab Hours:** 1

**Prerequisites:** ITSE 1311 and ITSE 1347

**Course Description:**

Windows Forms, ADO .NET, XML, Data Bound Controls, DataSet, Assemblies, Attributes, Reflection, Marshalling and Remoting, Threads and Synchronization, Streams, Deployment, Generics, Partial Classes, Application Blocks, and data encryption. Emphasizes using the more advanced features of the .NET Framework Class Library and web programming with ASP .NET.

**Measurable Student Learning Outcomes:**

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

1. Describe the components of a Web application.
  - a. Describe the components of the .NET Framework
  - b. Explain how static and dynamic Web pages work
2. Create Web pages using the Visual Studio IDE.
  - a. Create static Web pages using ASP.NET
  - b. Use Web server controls to create dynamic Web applications
  - c. Validate form data using server-side validation controls
3. Use Visual Basic .NET to manipulate the code behind the page.
  - a. Discuss object-oriented programming
  - b. Demonstrate Visual Basic .NET programming techniques
4. Manage a database using the Visual Studio .NET database tools.
  - a. Discuss the relational database model
  - b. Describe the primary ADO.NET classes and their uses
  - c. Create and manage databases using Microsoft Access and SQL Server
  - d. Create queries using SQL data sources

- e. Insert, modify, and delete records using the various data source controls
- 5. Explain how to manage state in an ASP.NET application.
  - a. Describe how profiles work
  - b. Differentiate between how to use profiles with anonymous users and with authenticated users
- 6. Identify and handle ASP.NET errors.
  - a. Test an ASP.NET application
  - b. Show how to use the debugger and set breakpoints
  - c. Develop the code for a custom error page using Visual Basic .NET
- 7. Describe how to create a secure Web site.
  - a. Explain how secure connections work
  - b. Describe the three types of authentication
  - c. Demonstrate the use of ASP.NET login controls
- 8. Develop custom user controls
  - a. Describe a user control
  - b. Add a user control to a project
  - c. Develop the code for a user control using Visual Basic .NET
- 9. Develop custom server controls
  - a. Differentiate between custom server controls and user controls
  - b. Describe the three types of custom server controls
  - c. Develop the code for a custom server control using Visual Basic .NET
  - d. Create a Web control library
- 10. Create a Web service.
  - a. Discuss the use of a Web service
  - b. Describe the role of XML in Web services
  - c. Develop the code for a Web service using Visual Basic .NET
- 11. Demonstrate how to configure and deploy an ASP.NET application.

**Course Requirements:**

Students will be required to complete lab work (development of computer programs) demonstrating mastery of various topics. Tests will be given covering both the practical aspects of programming and the theory of correct software development.