

**NVCC COLLEGE-WIDE COURSE CONTENT SUMMARY
ITP 244 - ASP.NET SERVER SIDE PROGRAMMING (4 CR.)**

COURSE DESCRIPTION

Entails instruction that focuses on the fundamentals of Web application design, development, and deployment using ASP.NET (Active Server Pages) and the .NET framework. Areas of interest include utilizing .NET languages (Visual Basic.NET) to manage and create web forms, server controls, and web services to accomplish complex data access tasks and implement dynamic content.

Lecture – 4 hours per week

RECOMMENDED CO-REQUISITES OR PRE-REQUISITES

ITP 112 or ITP 136

COURSE OBJECTIVES

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

- Acquire fundamentals of Web application design, development, and deployment using ASP.NET (Active Server Pages) and the .NET framework.
- Utilize .NET languages (Visual Basic.NET) to manage and create web forms, server controls, and web services to accomplish complex data access tasks and implement dynamic content.

COURSE CONTENT

- Introduction to Web Server Technology and Web-based applications
- NET framework
- Programming Basics
- Web Forms and ASP.NET
- Configuration, Scope, and State
- Objects and Components
- Web Services
- Database Connectivity
- Transactions and Mail

STUDENT LEARNING OUTCOMES

INTRODUCTION TO WEB SERVER TECHNOLOGY AND WEB-BASED APPLICATIONS

- Terminology and standards
- Theory of web architecture
- Implications for application design - Understand how web applications work
- Client-Side Scripting versus Server-Side Scripting
- Microsoft Internet Information Services (IIS)
- Web Server access
 - Authentication and verification
 - Security Overview

NET FRAMEWORK

- Operating System considerations
- Framework model
 - .NET languages
 - Microsoft Intermediate Language
 - Common Language Runtime

PROGRAMMING BASICS

- Overview of object oriented programming - Classes, objects, properties, methods, collections
- Data Types
- Control Flow
- Operators
- Event and Exception handling
- Built-in ASP.NET Objects and Interactivity
 - Understand and use the request object
 - Understand and use the response object
 - Understand and use the Server Object
 - Understand and use the ASP Error Object

WEB FORMS AND ASP.NET

- Programming Considerations - ASP.NET Architecture
 - Design page
 - HTML page
 - Code-behind page
- Understand capabilities and processing
- Understand Event handling and create handlers – do postback

CONFIGURATION, SCOPE, AND STATE

- Understand interaction with IIS
- Understand meaning and methods of state
 - State Maintenance - Global files
 - Application Object - Events, collections, and methods
 - Sessions and the Session object - Events, properties, collections, methods

OBJECTS AND COMPONENTS

- The scripting object model
 - Dictionary object
 - FileSystemObject
 - Drive, Folder, and File objects
 - TextStream object
- Create and use Server Component
- The AdRotator Server Control
- The Content Linking Component
- Using third-part components

WEB SERVICES

- Web Services Development
- Understand and use XML - DTDs and Schemas
- Understand and use Web Service Definition Language (WSDL) and Simple Object Access Protocol (SOAP)
- Understand, create, and access a Web Service

DATABASE CONNECTIVITY

- Relational Database Model
- SQL overview
- The ADO.NET (ActiveX Data Objects) Object Model - Data Consumers and Data Providers
- ADO.NET Connection-related objects
 - connection object - error handling techniques
 - command object - stored procedures
 - Recordset and DataSet object -Methods, properties, navigation, and manipulation operations
 - Stream and Record Objects
- Transactions and Mail
 - Transaction Database Design
 - Understand and use transactions
 - Collaborative Technologies and CDONTS - Object model