THE MINDCENTER
COMPUTER EDUCATION PROFESSIONALS

Analyzing Requirements and Defining Microsoft .NET Solution Architectures

Course 2710 — Instructor-led

Course Length: 5 days

At the end of this course, students will be able to:

- Gather and analyze information for designing a business solution.
- Create a vision/scope document.
- Create the conceptual design for a business solution.
- Create the logical design for a business solution.
- Create the physical design for a business solution.
- Design the presentation layer of an application.
- Design the data layer of an application.
- Create a functional specifications document.
- Create a technical specifications document.
- Create a security plan.
- Create a test plan.
- Create a deployment plan.

Prerequisites:

Before attending this class, students must have:

- A general understanding of the software development life cycle.
- Practical working knowledge of .NET development technologies.
- Familiarity with the Microsoft Solutions Framework (MSF) Process Model.
- Basic familiarity with object modeling and data modeling methodologies.
- Experience working with Microsoft Visio Professional 2000.
- One year experience as part of a software development team.

In addition, it is recommended, but not required, that students complete Course 1846: Microsoft Solutions Framework Essentials, before taking this course.

Course Outline

Module 1: Introduction to Designing Business Solutions

Lessons

- Overview of Microsoft Solutions Framework
- Phases in the MSF Process Model
- Introducing the Case Study—Adventure Works Cycles Application

Module 2: Gathering and Analyzing Information

Lessons

- Using Modeling Notations
- Creating Use Cases and Usage Scenarios
- Gathering Information
- Analyzing Information

Activity: Gathering and Analyzing Information

- Preparing for an Interview
- Deriving Use Case Statements for the Sales Automation Project and for the Web Enhancement Project
- Developing Draft Requirements from Initial Information Gathering
- Developing a Usage Scenario
- Create internal project documents.

Module 3: Envisioning the Solution

Lessons

- The Envisioning Phase
- Creating a Vision/Scope Document
- Creating the Project Structure Document
- Analyzing Risks

Activity: Developing a Vision/Scope Document

- Writing Problem Statements
- Writing a Vision Statement
- Developing Project Goals

Module 4: Creating the Conceptual Design

Lessons

- An Introduction to the Planning Phase
- An Overview of the Functional Specification
- An Overview of the Conceptual Design Process
- Building the Conceptual Design
- Optimizing the Conceptual Design

Activity: Analyzing Requirements

- Refining Use Cases and Requirements
- Viewing a Conceptual Model Diagram

Module 5: Creating the Logical Design

Lessons
- An Overview of Logical Design
- Creating a Logical Design
- Documenting Logical Design Output
- Optimizing Logical Design

Activity: Identifying Objects for the Logical Design
- Identifying Objects from Use Cases
- Creating a Services Matrix
- Creating a Sequence Diagram

Module 6: Creating the Physical Design

Lessons
- An Overview of Physical Design
- Physical Design Analysis
- Physical Design Rationalization
- Physical Design Implementation

Activity: Working on the Physical Design
- Creating a Class Model
- Creating a Component Model Diagram

Module 7: Designing the Presentation Layer

Lessons
- Basics of User Interface Design
- Designing the User Interface
- Designing User Process Components

Activity: Creating the User Interface
- Designing a User Interface Prototype

Module 8: Designing the Data Layer

Lessons
- Designing the Data Store
- Optimizing Data Access
- Implementing Data Validation

Activity: Creating a Data Schema
- Creating a Data Schema

Module 9: Designing Security Specifications

Lessons
- Overview of Security in Application Development
- Planning for Application Security
- Using the .NET Framework Security Features
- Designing Authorization, Authentication, and Auditing Strategies

Activity: Threat Modeling and Mitigation
- Identifying Potential Threats
- Applying Mitigation Technologies

Module 10: Completing the Planning Phase

Lessons
- Incorporating Design Considerations
- Planning for Administrative Features
- Planning for Future Phases
- Creating the Technical Specifications

Activity: Reviewing a Test Plan and Technical Specification
- Reviewing a Test Plan
- Reviewing a Technical Specification

Module 11: Stabilizing and Deploying the Solution

Lessons
- The MSF Stabilizing Phase
- Testing and Piloting for Stabilization
- The MSF Deploying Phase
- Deploying to a Production Environment

Activity: Prioritizing Bugs
- Categorizing and Prioritizing Bugs