COURSE SYLLABUS

COURSE TITLE: **50511A The Microsoft Business Intelligence 2010 Stack**

FORMAT: Instructor-led

CERTIFICATION EXAMS: None

This course syllabus should be used to determine whether the course is appropriate for the students, based on their current skills and technical training needs. Course content, prices, and availability are subject to change without notice.

ELEMENTS OF THIS SYLLABUS ARE SUBJECT TO CHANGE.

ABOUT THE COURSE

This five-day instructor-led course provides students with the knowledge and skills to develop Microsoft End-to-End business solutions using SQL Server 2008 R2 in an integrated environment with SharePoint 2010 and Office 2010. The course introduces the students to Microsoft Unified Data Model, SQL 2008 R2 Analysis Services, Integration Services, Reporting Services, Report Builder 3.0, SharePoint 2010 Integration, and the Business Intelligence Center, PerformancePoint Services, Business Connectivity Services, Dashboard Designer, Excel Services, Power Pivot and Data Mining.

The intention of this course is to allow a business to more accurately understand the scope of a BI project, the resources, the potential pitfalls, and the state of the art and perhaps most importantly understand why it may produce for an organization an unmatched competitive edge.

AUDIENCE

This course is intended for BI project managers, BI developers, IT professionals, end-user ombudsman, BI analyst, and the like.

This course was designed from the perspective of team immersion drawing on the author's 20 plus years in IT and over 10 years in Business Intelligence/OLAP Reporting and dashboard design. This course will expose team members to all aspects of the Microsoft BI stack from the source data through the reporting of the data be it in a subscribed report or through an interactive digital dashboard.

AT COURSE COMPLETION

After completing this course, students will be able to:

- Describe the entire Microsoft Business Intelligence stack and the role of each component so that a better informed estimate of resources might be made in the BI project.
- Explain the concept of the Unified Data Model, understand its limitations and practical implementations and when it might be appropriate to use in a fast and low cost BI deployment.
- Explain what SQL 2008 and the R2 release change in Microsoft BI and how best to leverage these technologies.
- Gain a good working knowledge of SQL Integration Services and with that knowledge understands why the Extract Transform and Load process may go through 40 percent or more of the entire project budget.
- Finally get an explanation of Multidimensional space in SQL Server Analysis Services that can be comprehended by us mere mortals and with that knowledge learn how to get the domain experts such as HR or Marketing to communicate what they really need to know about the business.
- Learn to plan for the on-going maintenance and changing nature of BI projects and then their rapid expansion across the enterprise.

- Data without visualization is of limited value. In this course you will experience the terrific new report design interface Report Builder 3.0 and also the PerformancePoint Services ClickOnce application Dashboard Designer.
- You will learn to use these tools to design reports in either ad-hoc mode or for distribution once or scheduled on subscriptions.
- You will explore the Dashboard Designer and see the ease of which you can create scorecards, filters, KPIs and dashboards.
- Understand the roll of PowerPivot in Microsoft BI. PowerPivot is the big development with Excel 2010 and SQL Server 2008 R2. You will learn where it fits, how to use it and what effect it will have on the present and future of your Microsoft BI investment.
- Excel rules the land of the MBA! Here we will explore Excel Services 2010 and you will be able to successfully implement a "Single version of the Truth workbook" deployment.
- The course ends with a walk through Data Mining which could easily be a stand-alone five-day course. You will learn where to use which Microsoft Algorithm to solve which type of a business problem.

PREREQUISITES

Before attending this course, students must have:

- A working knowledge of RDBMS.
- A working knowledge of Business Intelligence Studio.
- A working knowledge of Excel and the Office Ribbon.
- Understanding of the goals of Business Intelligence.

ADDITIONAL READING

To help you prepare for this class, review the following resources:

- Joy Mundy and Warren Thornthwaite, with Ralph Kimball, *The Microsoft Data Warehouse Toolkit: With SQL Server 2008 R2 and the Microsoft Business Intelligence Toolset* (Indianapolis: Wiley Publishing, Inc., 2011)
- Smart Business Intelligence Solutions with Microsoft SQL Server 2008
- Microsoft SQL Server 2008 Analysis Services Unleashed

MODULE 1: COURSE OVERVIEW

Lessons

- Introduction
- Course Materials
- Facilities
- Prerequisites
- What We'll Be Discussing

Lab 1: COURSE OVERVIEW

- None

MODULE 2: THE BUSINESS INTELLIGENCE STACK

Lessons

- SQL 2008 R2 Business Intelligence Platform
- SQL Analysis Services
- SQL Reporting Services
- Performance Management Tools
- SharePoint 2010
- Multidimensional Space
- MDX
- Data Mining
- Understanding the Terminology

Lab 1: THE BUSINESS INTELLIGENCE STACK

- Explore Business Intelligence Development Studio
- Connect into a SQL Server Analysis Services Cube
- Use SQL Server Management Studio
- Explore SharePoint 2010

MODULE 3: UNIFIED DATA MODEL

Lessons

- UDM Defined
- User Experience: Relational vs. UDM
- Advantages
- Trouble in River City

Lab 1: UNIFIED DATA MODEL

- Creating a Data Mart using Business Intelligence Development Studio.
- Enabling Table Compression

MODULE 4: SQL SERVER INTEGRATION SERVICES

Lessons

- Major Components
- New or Changed Features
- Script Task
- SSIS and ETL
- Transformers
- Best Practices 1
- Best Practices 2

Lab 1: SQL SERVER INTEGRATION SERVICES

- Create A SSIS Project
- Add a Data Source
- Create A Data Flow
- Create Another Data Flow
- Load Data via a SQL Statement
- Populating the Fact Table
- Loading Manufacturing Facts
- Handling Errors
- Inventory Fact Flow

MODULE 5: SQL SERVER ANALYSIS SERVICES

Lessons

- Key Concepts
- Schemas
- Measures
- Dimensions
- Cube Processing
- Partitions
- Proactive Caching
- Aggregations

Lab 1: SQL SERVER ANALYSIS SERVICES

- Define an OLAP Cube
- Working with Measures and Measure Groups
- Time and Hierarchies
- Relating Dimensions

- Build Deploy and Browse the Cube
- Multiple Partitions
- Set Storage
- Design Aggregations
- Default Members

MODULE 6: SQL SERVER REPORTING SERVICES

Lessons

- Integration with SharePoint
- Report Builder 3.0
- Differences Between Environments
- Tablix
- Charts

Lab 1: SQL SERVER REPORTING SERVICES

- SSRS Projects Report Wizard
- Report Builder 3.0
- Creating Charts

MODULE 7: MDX (OPTIONAL)

Lessons

- What is MDX?
- MDX Query Editor
- Select Statement
- Key Concepts
- Sets
- Functions
- Time Intelligence

Lab 1: MDX (OPTIONAL)

- Understand the Cell
- Write a Tuple
- MDX Sets
- Write a SELECT statement
- Write a Function
- Implement Time

MODULE 8: PERFORMANCEPOINT SERVICES 2010

Lessons

- Integration with SharePoint Server 2010
- Common Service Application Framework
- New PerformancePoint Features
- Storage Security
- Time Intelligence and Dynamic Filters
- Linking of Web Parts
- KPI Details Report
- Retired Features
- Scorecards in PPS
- KPI Collections
- Dashboard Design Guidelines
- Dashboard Designer Internals
- Dashboard Designer Interface
- First Class Objects

- Main Window
- Properties
- Dashboard Designer Features

Lab 1: PERFORMANCEPOINT SERVICES 2010

- Use SharePoint to create a site collection
- Configure Central Administration for PerformancePoint Services
- Create and Explore a PerformancePoint Business Intelligence Center
- Create a Basic Dashboard
- Deploy the Dashboard
- Explore the Dashboard in PPS

MODULE 9: EXCEL SERVICES, BUSINESS CONNECTIVITY SERVICES

Lessons

- Integration with SharePoint Server 2010
- Storage Security
- Single Version of the Truth
- Excel Web Services
- New Capabilities in Excel Services
- Business Connectivity Services

Lab 1: EXCEL SERVICES, BUSINESS CONNECTIVITY SERVICES

- Deploy a Excel spread sheet for a single version of the truth
- Utilize Excel Web Services
- Business Connectivity Services

MODULE 10: EXCEL POWERPIVOT

Lessons

- Integration with SharePoint Server 2010
- Understanding Modeling

Lab 1: EXCEL POWERPIVOT

- Explore Excel PowerPivot

MODULE 11: DATA MINING

Lessons

- Key Terms in Data Mining
- Types of Data Mining Algorithms
- The Algorithm
- Excel and The BI Extensions
- Visio 2010

Lab 1: DATA MINING

- Utilize the Excel Data Mining Tools