

ITMT 2075 Course Syllabus

1. Name of Course: Design Business ETL Solutions for Microsoft SQL Server 2005

2. Number of Clock Hours: 16

3. Course Description:

The purpose of this course is to teach Business Intelligence (BI) professionals working in enterprise environments to design an extract, transform, and load (ETL) solution that supports their BI solution. Students will learn how to plan an ETL solution, and specifically how to design and implement a SQL Server Integration Services (SSIS) based ETL solution. They will also learn how to monitor, optimize, and deploy an SSIS solution. MOC 2795.

Prerequisites: ITMT 2074 Design Business Intelligence Solutions for Microsoft SQL Server 2005.

4. Course Objectives

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

- Plan data transfer and staging solutions for an ETL operation
- Plan an SSIS Solution
- Design and implement data flows
- Incorporate logging, error handling, and reliability into a package
- Optimize an SSIS solution
- Deploy and operate an SSIS solution

5. Rationale:

Upon completion of this course, students will have a better understanding of Microsoft SQL Server 2005, a power database system.

6. Required Materials:

Microsoft Official Curriculum, MOC 2795, included.

7. Evaluation

Those who participate in class discussions, complete course lab work, and miss no more than three class meetings will be awarded 1.6 continuing education units.

8. Course Outline

Module 1: Planning for ETL

Lessons

- Identifying Data Sources and Destinations
- Evaluating Source Data

- Identifying Staging Requirements

Lab 1: Planning an ETL Solution

- Identifying ETL Requirements
- Examining Source Data

After completing this module, students will be able to:

- Plan data access and load operations
- Evaluate source data
- Design the ETL staging environment

Module 2: Planning an SSIS Solution

Lessons

- Planning Packages
- Planning Package Development
- Designing Package Control Flow

Lab 2: Implementing SSIS Packages

- Designing an SSIS Solution
- Creating a Package Template
- Implementing SSIS Packages

After completing this module, students will be able to:

- Plan SSIS packages
- Plan package development
- Design package control flow

Module 3: Designing Data Flow

Lessons

- Understanding Data Flow
- Designing Data Flow Operations
- Handling Data Changes

Lab 3: Implementing Data Flow

- Designing Data Flow
- Implementing Data Flow

After completing this module, students will be able to:

- Describe how data flows work in SSIS

- Design data flow operations
- Design data flows for updated data

Module 4: Logging, Error Handling, and Reliability

Lessons

- Logging ETL Operations
- Handling Errors in SSIS
- Implementing Reliable ETL Processes with SSIS

Lab 4: Implementing Reliable Packages

- Implementing Logging
- Implementing Error Handling
- Implementing Transactions and Checkpoints

After completing this module, students will be able to:

- Design and implement logging in an SSIS package
- Design and implement error handling in an SSIS package
- Design and implement reliability in an SSIS package

Module 5: Optimizing an SSIS Solution

Lessons

- Monitoring SSIS Performance
- Optimizing SSIS Packages
- Scaling Out SSIS Packages

Lab 5: Optimizing Packages

- Monitoring SSIS
- Optimizing an SSIS Package

After completing this module, students will be able to:

- Monitor SSIS packages
- Optimize SSIS packages
- Design scale-out solutions for SSIS packages

Module 6: Deploying and Operating an SSIS Solution

Lessons

- Deploying SSIS Packages
- Operating an SSIS Solution

Lab 6: Deploying and Managing Packages

- Deploying an SSIS Solution
- Backing Up an SSIS Package

After completing this module, students will be able to:

- Deploy an SSIS solution
- Operate an SSIS Solution