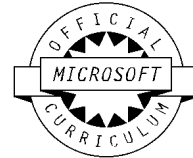


## Course Outline

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### 20768A: Developing SQL Data Models

**Duration:** 3 days (18 hours)



#### Target Audience:

The primary audience for this course are database professionals who need to fulfil BI Developer role to create enterprise BI solutions. Primary responsibilities will include:

- Implementing multidimensional databases by using SQL Server Analysis Services
- Creating tabular semantic data models for analysis by using SQL Server Analysis Services

The secondary audiences for this course are 'power' information workers/data analysts.

#### Prerequisites:

This course requires that you meet the following prerequisites:

- Basic knowledge of the Microsoft Windows operating system and its core functionality.
- Working knowledge of Transact-SQL.
- Working knowledge of relational databases.

#### Topics Covered:

- Module 1: Introduction to Business Intelligence and Data Modeling
  - Introduction to Business Intelligence
  - The Microsoft business intelligence platform
    - Lab : Exploring a Data Warehouse

After completing this module, you will be able to:

  - Describe the concept of business intelligence
  - Describe the Microsoft business intelligence platform
- Module 2: Creating Multidimensional Databases
  - Introduction to multidimensional analysis
  - Creating data sources and data source views
  - Creating a cube
  - Overview of cube security
    - Lab : Creating a multidimensional database

After completing this module, you will be able to:

  - Use multidimensional analysis
  - Create data sources and data source views

- Create a cube
- Describe cube security
- Module 3: Working with Cubes and Dimensions
  - Configuring dimensions
  - Define attribute hierarchies
  - Sorting and grouping attributes
    - Lab : Working with Cubes and DimensionsAfter completing this module, you will be able to:
  - Configure dimensions
  - Define attribute hierarchies.
  - Sort and group attributes
- Module 4: Working with Measures and Measure Groups
  - Working with measures
  - Working with measure groups
    - Lab : Configuring Measures and Measure GroupsAfter completing this module, you will be able to:
  - Work with measures
  - Work with measure groups
- Module 5: Introduction to MDX
  - MDX fundamentals
  - Adding calculations to a cube
  - Using MDX to query a cube
    - Lab : Using MDXAfter completing this module, you will be able to:
  - Describe the fundamentals of MDX
  - Add calculations to a cube
  - Query a cube using MDX
- Module 6: Customizing Cube Functionality
  - Implementing key performance indicators
  - Implementing actions
  - Implementing perspectives
  - Implementing translations
    - Lab : Customizing a CubeAfter completing this module, you will be able to:
  - Implement key performance indicators
  - Implement actions
  - Implement perspectives
  - Implement translations
- Module 7: Implementing a Tabular Data Model by Using Analysis Services
  - Introduction to tabular data models
  - Creating a tabular data model
  - Using an analysis services tabular model in an enterprise BI solution

- Lab : Working with an Analysis services tabular data model

After completing this module, you will be able to:

- Describe tabular data models
- Create a tabular data model
- Be able to use an analysis services tabular data model in an enterprise BI solution

➤ Module 8: Introduction to Data Analysis Expression (DAX)

- DAX fundamentals
- Using DAX to create calculated columns and measures in a tabular data model
- Lab : Creating Calculated Columns and Measures by using DAX

After completing this module, you will be able to:

- Describe the fundamentals of DAX
- Use DAX to create calculated columns and measures in a tabular data model

➤ Module 9: Performing Predictive Analysis with Data Mining

- Overview of data mining
- Using the data mining add-in for Excel
- Creating a custom data mining solution
- Validating a data mining model
- Connecting to and consuming a data mining model
- Lab : Perform Predictive Analysis with Data Mining

After completing this module, you will be able to:

- Describe data mining
- Use the data mining add-in for Excel
- Create a custom data mining solution
- Validate a data mining solution
- Connect to and consume a data mining solution