# Essential Skills for BI and Analytics Professionals

Course Outline

1. Business Intelligence and Analytics Principles

   1.1 Introduction to BI and Analytics
   - Definitions
   - Components
   - Perspectives
   - The BI and Analytics Roadmap
   - BI and Analytics Maturity
   - Mistakes to Avoid

   1.2 Business Metrics and Analytics
   - Business Capabilities
   - Performance Management
   - Business Analytics
   - Data Analytics
   - The BI and Analytics Roadmap
   - Mistakes to Avoid

   1.3 OLAP and Other Information Services
   - OLAP Services
   - BI Reporting
   - Visualization and Storytelling
   - Data Access and Delivery
   - Self-Service
   - The BI and Analytics Roadmap
   - Mistakes to Avoid

   1.4 Data Integration
   - Data Integration Architecture
   - Data Types and Sources
   - Data Warehousing
   - Data Stores
   - Implementation
   - Operation
   - The BI and Analytics Roadmap
   - Mistakes to Avoid

   1.5 Data Management
   - Data Governance
   - Data Quality

- Data Profiling
- The BI and Analytics Roadmap
- Mistakes to Avoid

1.6 BI and Analytics Technology

- The Technology Stack
- Technology Architecture
- Technology Management
- The BI and Analytics Roadmap
- Mistakes to Avoid

2. Data Integration

2.1 Data Integration Concepts

- The Need for Data Integration
- The Challenges of Data Integration
- Data Integration Architectures
- Data Integration Projects
- Data Integration Technologies

2.2 Requirements Analysis for Data Integration

- Integration Requirements Concepts
- Source Data Requirements
- Data Unification Requirements
- Data Aggregation and Summary Requirements
- Data Quality Requirements
- Data Capture Requirements
- Audit, Balance, and Control Requirements
- Metadata Capture Requirements
- Service Level Requirements

2.3 Data Integration Functional Design

- Functional Design Concepts
- Source/Target Mapping
- Data Capture Design and Specification
- Data Transformation Design and Specification
- Data Cleansing Design and Specification
- Identity and Key Management
- Design for Integrated Data Delivery
- Data Integration Process Design

2.4 Data Integration Technical Design

- Technical Design Concepts

- Data Flow Design
- Workflow Design
- Service Level Design
- Process Management Design

3. Performance Management

3.1 Performance Management Concepts

- Defining Performance Management
- Performance Management Processes
- The Balanced Scorecard
- Strategy Mapping
- Performance Indicators
- Business Impact

3.2 Business-Aligned Performance Management

- Multiple Paths
- Engineered Dashboard Development
- Dashboard Requirements
- Dashboard Design
- Dashboard Examples
- Self-Service Dashboard Development

4. Analytics

4.1 Analytics Concepts

- Analytics Defined
- Data Analytics and Business Analytics
- Why Analytics?
- Analytics Processes
- Analytics Foundations

4.2 Analytics Architecture

- The Big Picture
- Data Architecture
- Process Architecture
- Technology Architecture

4.3 Analytic Modeling

- The Roles of Models
- Kinds of Models

- Problem Modeling
- Solution Modeling

4.4 Applied Analytics

- Five Kinds of Analytics
- Analytics Use Cases

5. Big Data

5.1 Big Data Concepts

- What Is Big Data?
- What Is Big Data Analytics?
- Big Data Use Cases
- Why Big Data Now?
- Kinds of Big Data
- Sources of Big Data
- Working with Big Data

5.2 Big Data Processes

- Business Case
- Technical Case
- Data Sourcing
- Data Preparation and Storage
- Big Data Analytics
- Consumption and Application

5.3 Big Data Architecture

- The Role of Architecture
- Data Architecture
- Process Architecture
- Analytics Architecture
- Technology Architecture
- Big Data ... Big Architecture

5.4 Big Data Technology

- The Technology Landscape
- Infrastructure
- Analytics
- Data Sources
- The Core Technologies: MapReduce
- The Core Technologies: Hadoop

Workshop

- Working with Your People, Projects, Processes and Data

- Choose from the following list of topics for a tailored workshop:
  (*It is recommended that you select two topics for approximately 4.5 hours of workshop activity.)*
  - Program Planning
  - BI and Analytics Maturity
  - Roadmapping
  - Data Integration
  - Balanced Scorecard, Strategy Map and KPIs
  - Scorecard/Dashboard Design
  - Analytic Modeling (Spreadsheet Engineering Approach)
  - Big Data Business/Technical Case and Big Data Maturity