Module One

Concepts and Definitions

- Business Intelligence Concepts
  - BI Defined
  - The BI Framework
  - The BI Value Chain
  - The BI Value Chain within Business Context
- Anatomy of a Metric
  - Data, Measures, and Metrics
  - Indicators and Indices
  - Qualitative Components
  - Quantitative Components
- Business Measurement Systems
  - Measurement Concepts
  - Units of Measure
  - Applications in Business
  - Feedback and Control
- Systems and Process Concepts
  - Connectivity Models
  - Process Flows
  - Cause and Effect Relationships
  - Temporal Relationships
- The Analytics Supply Chain
  - Overview and Definitions
  - Applications to Metrics Delivery
  - Supply Chain Stages
  - Processes in the Supply Chain
- Metrics and Management
  - Overview
  - Performance Management
  - Process Management
  - Activity Management

Module Two

The Challenges of Metrics

- Defining the Right Metrics
  - Measuring What is Useful
  - Distinguishing Metrics from Measures
  - Linking Metrics to Measures
- Defining the Metrics Right
  - Quality Considerations
  - Leading and Lagging Indicators
  - Integration and usage
  - Sources of Data
  - Quantum and Application Data Mapping
  - Subject and Stratum Data Mapping
- Maintaining Business Alignment
  - Risks of Ad Hoc Metrics
  - Business Change and Continuous Alignment
  - Cascading through Hierarchies
  - Accountability and Incentives
- Measurement Characteristics
  - Setting Targets and Thresholds

  - Timing and Latency
  - Precision and Accuracy
  - Uncertainty and Measurement Error
  - Integration of Measurement Units

Module Three

Data Modeling for Metrics

- The Data Modeling Framework
  - Overview
  - Framework Levels
  - Models and Deliverables
  - Business Context – Goals and Objectives
- Modeling Content and Structure
  - Fact/Qualifier Analysis
  - Logical Dimensional Modeling
  - Business Measures
- Modeling Business Metrics
  - The Modeling Process
  - Identifying and Collecting Metrics
  - Classifying and Selecting Metrics
  - An Example
- The Modeling Gap
  - The Zachman Framework
  - The Data Perspective
  - Additional Perspectives for Metrics
- Metrics Modeling vs. Data Modeling
  - Contextual and Conceptual Modeling
  - Logical Modeling and Physical Design
  - Specification and Implementation

Module Four

Goal-Question-Metric-Measure

- GQMM Models
  - Purpose and Description
  - Approach and Deliverables
  - Usage and Application
- GQMM Technique
  - Goal Modeling
  - Accountabilities and Incentives
  - Goal Attainment questions
  - Identifying and Selecting Metrics
  - Metrics Components
  - Identifying Measures
  - Developing a Measurement Plan
- Logical Data Modeling
  - Modeling the Meter
  - Modeling the Dimensions
  -
- Model Validation
  - Revisiting the Business Questions

Module Five

Causal Modeling

- Causal Models
  - Purpose and Description
  - Cause and Effect Models

    - Fishbone Diagram
    - Process Model
    - State transition Model
    - Pareto Diagram
- Causal Modeling Approach
    - Objectives and Goals
    - Sample Fishbone Diagram
    - Identifying Goals
    - Validating the Model
    - Refining Goals
    - Identifying Measures and Metrics Goals #1-4
- Model Validation
    - Reviewing the Metrics Model
- Closing the Loop
    - Taking Action

Module Six

Extending Data Modeling for Metrics

- Hierarchy Models
    - Purpose and Description
    - Approach and Deliverables
    - Usage and Application
- Measurement Models
    - Purpose and Description
    - Timing
    - Quality
    - Performance
    - Computation
- Fully Defined Metrics
    - Business Model
    - Measurement Model
    - Logical Data Model
    - Process, Delivery, and Calculation Models
- Metadata for Metrics
    - Metadata Categories
    - Metadata usage
    - Metadata Content

Module Seven

Summary and Conclusion

- Implementing and Sustaining Metrics
    - From Metrics to Analytics
    - Metrics for the Long-Term
- Summary of Key Concepts
    - A Quick Review

Appendices

Appendix A

- Bibliography and References

Appendix B

- GQMM Case Study

Appendix C

- Causal Modeling Case Study

Appendix D

- Exercises