Module One: Concepts of Analytics
Analytics Defined
- From Data to Insight
Data Analytics and Business Analytics
- Variations of Purpose
- Variations of Skills
Why Analytics?
- Cause and Effect
- Strategy and Analytics
- Tactics and Analytics
- Operations and Analytics
- Systemic Analytics
Analytics Processes
- Problem Framing
- Problem Modeling
- Solution Modeling
- Visualization and Presentation
- Understanding and Action
Analytics Foundations
- Data
- Statistics
- Visualization
- Business Impact

Module Two: The Analytics Environment
Analytics Stakeholders
- The Participants
Analytic Culture
- Values, Beliefs, and Competencies
Analytics Organizations
- Organization Models
- Analytics and Governance
Analytics Capabilities
- Business Capabilities
- Analysis Capabilities
- Data Capabilities
- A Capability-Based Framework

Module Three: Analytics Architecture
The Big Picture
- Architecture Overview
Data Architecture
- Data Sources and Types
- Acquiring and Storing Data
- Managing Data
- Making Data Useful
- Using Data

Process Architecture
- Next Generation BI
- Data Analysis
- Discovery and Prediction
- Text and Language Analysis
- People and Behaviors
- Real-Time Analytics
- Events and Data Streams
- Smart Machines

Technology Architecture
- Connectivity
- Data Stores
- Processing
- Management
- Platforms

**Module Four: Analytic Modeling**

The Roles of Models
- Why Model?

Kinds of Models
- Framing Models
- Cause-Effect Models
- Data Models
- Language Models
- Solution Models

Problem Modeling
- Framing the Problem
- Influence Diagramming
- Causal Modeling

Solution Modeling
- Formula Based Modeling
- Algorithm Based Modeling

**Module Five: Applied Analytics**

Five Kinds of Analytics
- What We Do
- Analytics Purpose

Descriptive Analytics
- Definition and Description
- Use Cases

Diagnostic Analytics
- Definition and Description
- Use Cases

Discovery Analytics
• Definition and Description
• Use Cases

Predictive Analytics
• Definition and Description
• Use Cases

Prescriptive Analytics
• Definition and Description
• Use Cases

Module Six: Summary and Conclusion
Summary of Key Points
• A Quick Review

References and Resources
• To Learn More

Appendix A
Bibliography and References
• Books
• Other Resources

Appendix B
Exercises