

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