IA Data Analytics & Automation: Enabling the Internal Audit of the Future

Course Schedule – Topics & Activities

Day One

- Introduction to Data Science & Analytics
  - What is analytics
  - Identify and define key data analysis terms
  - List common issues regarding data types
  - Tools overview
  - Explain necessary preparation to get started on a data analysis project

- Analytics & Automation in the context of IA
  - Why / value
  - Marketplace perspectives
  - Use Cases
  - Maturity model
  - Strategic considerations
    - People
    - Process
    - Methodology
    - Data Management
  - Project identification & ROI

Day Two

- Data science & analytics techniques
  - Methodology & CRISP-DM
  - Predictive Analytics (unsupervised and supervised)
  - Social network analysis & link analysis
  - Text analytics
  - Poisson and binomial analysis
  - Event history analysis
  - Other methods
  - Leading practices
- Common analytics tools and platforms
- Various exercises and demonstrations of techniques

Day Three

- Visual analytics
  - Why visualizations
  - Visualizations in the business world
  - Validity in decision making
  - Exploiting cognitive ability for decision making to create effective data visualizations
  - Leading practices on creating visualizations
  - Visualization Tool Overview and Comparison
• Presenting observations & Story telling
  o Why we tell stories
  o The Science: Approach to Developing Stories
  o The Art: Developing Data-Driven Content

• Introduction to Tableau
  o Interface tour
  o Importing a data set
  o Developing charts
  o Calculated fields
  o Dashboards and Actions

**Day Four**

• End to end use case

*Topics and activities may vary by class and instructor.*