COURSE SYLLABUS

Data Analytic Tools for Financial Management Course

Acquire hands-on methods and tools to analyze financial data, detect anomalies, and enhance oversight across fiscal operations.

Group classes (Live Online) and onsite training are available for this course. For more information, email onsite@graduateschool.edu or visit: https://www.graduateschool.edu/courses/data-analytic-tools-for-financial-management



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Course Outline

Module 1: Introduction to Data Analytics in Financial Management

- Understand the role of analytics in performance, oversight, and accountability
- Differentiate between structured and unstructured data
- Assess your agency's maturity using the Data Analysis Maturity Model
- Review common tools used in audit and financial data analytics

Module 2: Exercise – Initial Discovery

- Explore a new dataset to assess structure and context
- Identify missing values, outliers, and data quality concerns
- Use Excel and InfoZoom to perform discovery

Module 3: Duplicate Detection

- Detect potential fraud or inefficiencies through duplicate transactions
- Analyze single and multiple attributes (e.g., transaction ID, amount)
- Identify duplicated addresses, phone numbers, or vendor entries
- Apply normalization strategies to improve matching

Module 4: Stratification

- Group data into bands or categories for risk or anomaly detection
- Identify unusually high or low transactions by strata
- Use visual analysis tools to surface outliers

Module 5: Improper Payments Analysis

- Assess whether payments were appropriately made or processed
- Spot possible duplicates, ineligible recipients, or timing issues
- Apply criteria to isolate suspect transactions

Module 6: Aging Analysis

- Analyze outstanding receivables by age category
- Determine risks of uncollectible or aging debt
- Prioritize collection or follow-up actions using visual dashboards