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://sdfm.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