

# Data Science Concentration: Financial Data Analytics (FIDA)

## Proposal

# Financial Data Analytics Concentration Overview

A data science degree with a concentration in Financial Data Analytics will provide students with a strong background in core financial concepts and the latest applied tools in financial modeling and financial analytics.

Students will have flexibility to focus heavily on financial analytics or to focus on a combination of analytics and traditional finance content such as Investments and Corporate Finance.

These skills will enable graduates to move beyond spreadsheets and apply cutting-edge technical tools to financial projects, and to bridge the communication gap between corporate technicians and financial analysts.

# Financial Data Analytics Concentration

## Learning Objectives

1. Assess the valuation and performance of financial assets, businesses, or households through application of core financial concepts and interpretation of financial statements.
2. Manipulate financial data using common analytical tools such as spreadsheets to visualize and present information in a clear and succinct manner.
3. Apply advanced financial analytical methods such as Power BI, AI, and Python to financial problems.
4. Understand the principles and techniques of advanced programming languages as applied to financial data.

# Financial Data Analytics Concentration Courses

- ✓ **Required courses (12 hours)** provide a foundation in accounting, finance principles, spreadsheet-based data projects, and advanced data projects that mix creativity, programming skills, and financial competence.
- ✓ **Elective courses (9 hours)** provide students flexibility to deepen their knowledge of financial data analytics, or to enhance their core finance knowledge in such areas as investments, real estate, risk management, banking, venture capital, and corporate finance.

Code	Course Title	Hours
<b>Required Courses for Financial Analytics Concentration</b>		<b>12</b>
ACCT 2013	Accounting Principles	3
FINN 2043	Principles of Finance	3
FINN 3103	Financial Modeling	3
FINN 4323	Financial Data Analytics I	3
<b>Electives For Financial Analytics Concentration (Select 9 Hours)</b>		<b>9</b>
FINN 3003	Personal Financial Management	3
FINN 3013	Financial Analysis	3
FINN 3053	Financial Markets and Institutions	3
FINN 3063	Investments	3
FINN 3133	Commercial Banking	3
FINN 3603	Corporate Finance	3
FINN 3623	Risk Management	3
FINN 3703	International Finance	3
FINN 3933	Real Estate Principles	3
FINN 4163	Advanced Financial Modeling	3
FINN 4243	New Venture Finance	3
FINN 4333	Financial Data Analytics II	3
<b>Total Hours: 21</b>		

# Financial Data Analytics Concentration Overall Program Outcomes

- Provide students with the ability to securely and efficiently obtain financial data, visualize and analyze it, and communicate the extracted information and trends in a clear manner to the decision makers in the private and public sector.
- Provide students with the financial knowledge and advanced tools that are being used in financial modeling. Investors and financial institutions are switching from spreadsheets to more advanced approaches that combine programming languages with artificial intelligence. Graduates will be able to assist in this transition either directly by developing technical solutions or as intermediaries who bridge the gap between technicians and financial practitioners.
- Students will be exposed to the ways in which financial innovation and tools can benefit or harm individuals and groups. They will learn that recommendations and feasibility of proposals and decisions depend on legal, cultural and ethical boundaries.

# Financial Data Analytics Concentration Overall Program Outcomes

- Students will demonstrate an ability to integrate complex data-based concepts with financial analysis to provide recommendations of relevance to stakeholders in the public and private sector.
- Students will learn how to collaborate on team projects to solve complex data-driven problems and deliver financial analysis that clearly explains the key issues. In this process, students will identify their comparative advantages in group dynamics.
- Students will develop the ability to handle a Financial Analytics problem from the point of problem definition to delivery of a solution; be proficient in collecting and processing real-world data using advanced data techniques and software; be competent in working in small groups and delivering their ideas and results.