

MSFA Course Descriptions

Residencies

FNA 601 - Finance & Analytics Residency I

This residency is a required 3-day session held in Charlotte, NC. The purpose of this residency is to provide students with essential skills for financial analytics professionals and to launch students into the MSFA program. Active learning experiences will define the residency. These experiences include team-building, career development, technology readiness, and a foundational knowledge review. Credit: 0

FNA 602 - Finance & Analytics Residency II

This residency is a required 1.5-day session held in Charlotte, NC. The purpose of this residency is to further develop the professional readiness of our students. Active learning experiences will include leadership development, mock interviews, problem-solving cases, and alumni networking. Prerequisite: completion of FNA 601 - Finance & Analytics Residency I. Credit: 0

Finance Sequence

FNA 635 – Financial Modeling in Excel

This course is designed to equip students with the skills and knowledge necessary to create comprehensive financial models using Microsoft Excel. Through a combination of theoretical concepts and practical hands-on exercises, students will learn to build dynamic financial models, perform advanced financial analysis, apply different valuation techniques and make informed financial projections. Other topics include assessment of an organization's financial position, the analysis of risk and reward, capital budgeting techniques, capital structure on firm value, cost of capital. Prerequisite: Admission to MSFA Program. Credit: 3

FNA 662 – Advanced Managerial Finance

This course provides an in-depth study of financial theory, analysis and application in selected areas. Topics include advanced financial analysis, economic value added, estimation of free cash flows, corporate valuation using free cash flows, risk and return, project-specific cost of capital, capital budgeting applications, capital structure theory and policy, dividend policy, share repurchases, and mergers and acquisitions. Students will apply theoretical concepts learned in course lectures to real-world case analyses. Prerequisite: FNA 635. Credit: 3. Cross-listed with MBA 662.

FNA 663 – Investment Analysis

This course includes the study of capital market theory, the balance between risk and return, rates of return required by investors and the study of betas in the capital asset pricing model, all examined from the viewpoint of the private investor. Prerequisite: FNA 635. Credit: 3. Cross-listed with MBA 663.

FNA 664 – International Financial Management

This course covers international financial management topics including exchange rate determination, interest rate parity and purchasing power parity relationships, international Fisher Effect, transaction and operating exposure, forward markets, hedging with futures and options, international financial markets, and international cost of capital, capital budgeting, and capital structure. Prerequisites: FNA 635 Credit: 3. Cross-listed with MBA 664.

FNA 665 – Futures & Options

This course focuses on the financial derivatives known as options and futures. Topics include the long and short positions in calls and put options, valuing options using the Black-Scholes-Merton option pricing model, the "Greeks" of options including delta, gamma, vega, and theta, put-call parity, covered call options, options combinations and spreads, forwards and futures markets, arbitrage conditions for options and futures, credit derivatives, comparing hedging strategies for options and futures, using financial engineering with futures contracts to adjust characteristics of stock and bond portfolios, basics of swaps markets, and swaptions. Emphasis is placed on the use of derivative contracts for hedging and speculative purposes. Prerequisite: FNA 635. Credit: 3. Cross-listed with MBA 665.

FNA 667 - Financial Institutions & Fintech

This course studies the fundamental principles that govern the Federal Reserve, the behavior of financial intermediaries and the various risks that different types of institutions encounter in their operations as well as how these institutions manage these risks. We will also analyze how digital transformation is impacting organizational structures, market structure, participants, regulation as well as the dynamics of change being brought about by FinTech. Topics include blockchains, cryptocurrencies, AI in the finance industry, and fintech in electronic payments and the internet of things. Prerequisite: Admission to MSFA program Credit: 3.

Analytics Sequence

FNA 631 –Principles of Data Analytics

This course demonstrates the application of data analytics principles in the financial services industry. Special emphasis will be on generating descriptive analytics – including univariate and bivariate statistics, visualizations, and descriptive data mining – to gain insights and make better decisions. Computer programming and data visualization software are used throughout the class. Prerequisite: Admission to MSFA Program. Credit: 3.

FNA 632 –Economic and Financial Forecasting

This is a course on forecasting methods and their applications in economics and finance. Students will be introduced to regression methods from time series analysis illustrated using a variety of real data sets. At the end of the course students should be able to go through the cycle of proposing a model, carrying out diagnostic tests, and revising the model. Prerequisite: FNA 631. Credit: 3.

FNA 633 – Data Foundations for Analytics

This course will explore the concepts and practical skills associated with acquiring, cleaning, transforming and validating data in a financial analytics environment. Students will learn to identify and prioritize data needs and sources as part of the problem framing process including translating a given business process into an analytic solution, storing and accessing (large) data, dealing with missing data and/or messy data. Software skills: data queries, database management systems, data automation, and data transformation. Prerequisite: FNA 631. Credit: 3.

FNA 634 – Machine Learning and AI

This course will cover fundamental machine learning models used to solve financial problems and improve business decisions. The course will cover supervised (predictive), unsupervised (descriptive) and reinforcement learning models. Particular attention will be given to understanding the machine learning process including data collection, data wrangling, model building, model evaluation and model deployment. Software: cloud-based analytics services, and computer programming. Prerequisite: FNA 631. Credit: 3.

Capstone Course

FNA 670 – Industry Practicum

This course is a capstone course for the MSFA program. The course utilizes an integrative team project that gives students an opportunity to demonstrate an understanding of the core competencies taught throughout the program and apply them to industry project in the financial services industry. Prerequisite: FNA 635, FNA 663, FNA 667, FNA 665, FNA 632, FNA 633, FNA 634 and completion of Finance & Analytics Residency II. Credit: 3.

Optional Elective (International students only)

FNA 692 Internship

Students participate in in-depth academic coursework and onsite internship work in order to further connections between the workplace, industry trends and professional development. Students are expected to complete 43 onsite internship hours per credit hour in addition to coursework. The supervising faculty member and the director of the graduate program must approve a course plan. This course may be repeated for up to 6 credits. The internship may not exceed 20 hours per week and may not be completed in the eight-week format. Prerequisites: Completed at least 6 credits in the degree and maintained a 3.0 or higher GPA. Credit: 1-3.