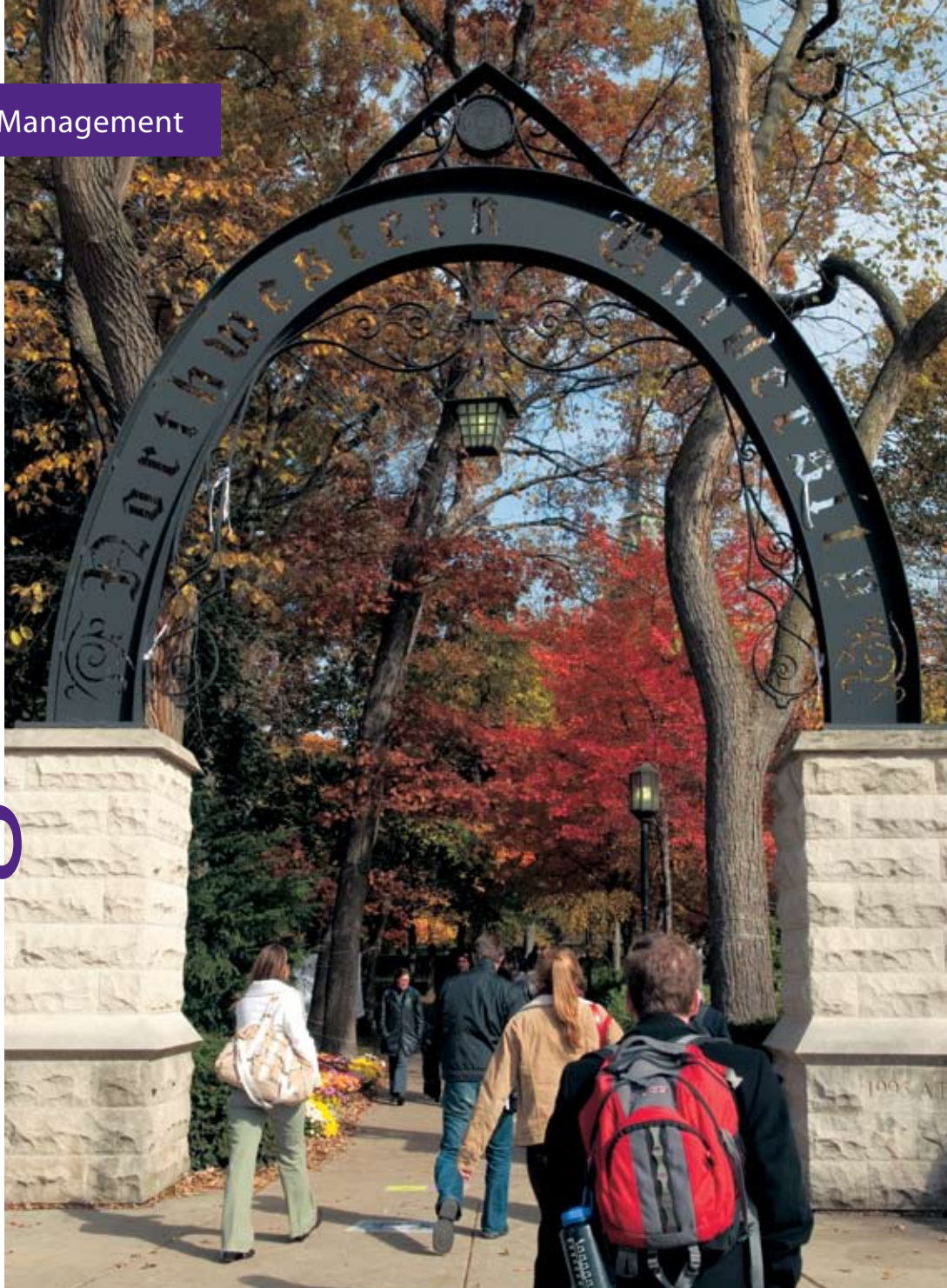


Kellogg School of Management

Certificate Program for
Undergraduates



Kellogg
School of Management

Major business decisions hinge on the accurate application and interpretation of financial, analytical and strategic models. And in an increasingly complex world, decision makers must skillfully examine quantitative data in context with trends in science, technology, economics and politics.

The Kellogg School's Certificate Program for Undergraduates addresses these needs, aligning business requirements with the exceptional talents of Northwestern University students. The program is open to juniors and seniors who have strengths in mathematics and analysis and a grounding in the liberal arts, including students in Northwestern's highly regarded math and engineering programs. The certificate program's distinctive curriculum builds on students' strengths, developing their critical thinking and business applications skills with a foundation in the quantitative analysis that underlies all strategic business decisions.

Qualified Northwestern undergraduate students are identified through a special application process for their analytical and quantitative skills, as well as their ability to comprehend complex concepts and to communicate clearly. These select scholars will take a series of four advanced courses taught by distinguished Kellogg School faculty. They may choose one of the program's two certificate tracks, in **financial economics** or **managerial analytics**, preparing them to step into analytical roles in many types of business organizations in the public, private and not-for profit sectors. The financial economics certificate is particularly geared toward careers in banks and investment banking, insurance companies, asset management firms and financial consulting, while the managerial analytics certificate is ideal for students seeking corporate roles in management consulting, strategy or planning. Both certificates also prepare students to continue their education in doctoral programs or professional schools.

The Kellogg School of Management is consistently ranked among the best business schools in the world for management education. Working with Northwestern's Weinberg College of Arts & Sciences and the McCormick School of Engineering & Applied Science, this program offers an unparalleled opportunity for students to augment Northwestern's broad range of majors with the business applications that recruiters seek today.

Advanced-Level Work

To ensure that all participants are prepared for the advanced-level work in the program, students must meet a set of rigorous course prerequisites in advanced calculus and linear algebra, intermediate probability and statistics, advanced econometrics, and microeconomics.

Summer Internships

Students who start the program during their junior year may build on their knowledge by completing an internship at a company or conducting a research project with a Kellogg faculty member during the summer before their senior year.

What will students learn?

Knowledge of the business environment
Tools used to make business decisions
Financial models
Analytical models
Strategic models

The appropriate application of analytical models to business scenarios such as
Mergers and acquisitions
Valuation
Asset management
New products
Strategy formulation
Supply chain design
Pricing



Career Services

Through a partnership between the Kellogg School and Northwestern University Career Services, students work with a dedicated adviser who combines Career Services' knowledge of undergraduate job opportunities with the Kellogg School's expertise in financial and consulting organizations. The certificate program's career services adviser assists students in their career preparation and connects them with the leading employers of undergraduates for summer internships and full-time jobs upon graduation.

Dedicated Resources

Northwestern has created a special classroom, study room and lounge dedicated to the program that are designed to support the collaborative, teamwork-based learning method that is the Kellogg School's hallmark.



Students earning the **Financial Economics** Certificate will be prepared for roles that include:

- > Performing cash-flow analysis and building financial models
- > Devising financing plans and capital structure choices
- > Preparing analysis to support mergers and acquisitions
- > Researching capital budgeting and other business and financial decisions
- > Analyzing portfolio investments and asset management choices
- > Generating and proposing risk-management strategies
- > Researching cash flow forecasts and valuation estimates for industries and firms
- > Facilitating meetings with clients and preparing supporting presentations and analyses



Certificate Program in

Financial Economics

Offered in cooperation with the Weinberg College of Arts and Sciences, the inaugural courses in the Financial Economics Certificate Program begin in the fall of 2007. All students who meet the prerequisites are eligible to apply to this program, regardless of their school within Northwestern University. All financial economics certificate students take the following four courses.

Principles of Finance

This foundation course for the Financial Economics Certificate Program is taken in the fall. The course discusses the principles of finance, focusing on the effects of time and uncertainty on value. Students will learn valuation, including discounted cash flows; equity and debt valuation; the term structure of interest rates; portfolio theory; asset pricing; and efficient market theory. The course also examines firms' financing decisions, including capital budgeting, capital structure, and payout policy.

Investments

Students will learn about active portfolio strategies in bonds and stocks, optimal portfolio selection from the perspective of individual and institutional investors, and the role of style and performance benchmarks in portfolio management. Special topics such as performance evaluation and trading costs are also covered.

Derivatives

This course focuses on the use and pricing of forwards and futures, swaps and options. Strategies for speculation and risk management, no-arbitrage pricing for forward contracts, the binomial and Black-Scholes option pricing models and applications of pricing models in other contexts are discussed in depth.

Topics in Financial Economics

Topical finance issues from this course each academic year. The current focus is on value investing, covering the empirical support for the value approach to investing; quantitative methods for searching for value; balance sheet and earnings power approaches to assessing fundamental value; risk management; and construction of portfolios using the value approach.

Certificate Program in

Managerial Analytics

Offered in cooperation with the McCormick School of Engineering and Applied Science, the inaugural courses in the Managerial Analytics Certificate Program begin in the fall of 2008. All students who meet the prerequisites are eligible to apply to this program, regardless of their school within Northwestern University. All managerial analytics certificate students take the following four courses.

Analytical Decision Modeling on Spreadsheets

This foundation course for the Certificate Program in Managerial Analytics is taken in the fall. The course focuses on structuring, analyzing and solving business decision problems using Excel spreadsheets, and examining problems involving resource allocation decisions and risk analysis of decisions under uncertainty. Some data analysis and demand forecasting is also covered. Topics include: analysis of resource allocation decisions by Solver optimization, risk analysis of decisions involving uncertainty by Monte Carlo simulation, modeling and analysis of sequential decisions by decision trees, data analysis by pivot tables and filters, and demand forecasting by time series analysis.

Principles of Finance

This course discusses the principles of finance, focusing on the effects of time and uncertainty on value. Students will learn valuation, including discounted cash flows; equity and debt valuation; the term structure of interest rates; portfolio theory; asset pricing; and efficient market theory. The course also examines firms' financing decisions, including capital budgeting, capital structure, and payout policy.

Pricing

Students will compare the three main ways to set prices: haggling/negotiation, posted price and auctions, and learn how to choose the best method in a given situation. They will also explore customizing the price of the same product or service to different segments, using optimization models to set prices when volume is uncertain, as well as pricing multiple products. This course also offers an introduction to some of the main techniques (regression, conjoint analysis, EVC) for gathering information about buyer valuations and demands.

Operations and Supply Chain Strategy

This course provides a framework to discover what are the key capabilities an operation and a supply chain must develop to support the business strategy of a firm, and the relationship between the desired capabilities and the structure of a supply chain. Students will gain exposure to methodologies and analysis that support operations and supply chain strategy and planning decisions, using case studies and development of analytical spreadsheet models.



Students earning the **Managerial Analytics** Certificate will be prepared for roles that include:

- > Analyzing business decisions on spreadsheets
- > Preparing analyses to support merger or acquisition decisions
- > Helping companies make investment decisions in a supply chain network
- > Analyzing and optimizing supply chain networks
- > Creating analyses to support pricing decisions
- > Studying industries to assess current trends in business practices, products and industry competition
- > Using spreadsheets and statistical software packages to analyze sales and operational data, spot trends and develop forecasts
- > Facilitating meetings with clients and preparing supporting presentations and analyses



Application

Each program will accept about 50 students every year. Students may apply at the end of their sophomore or junior years for participation during the following school year. Applications are due at the end of the spring quarter.

For details, please visit kellogg.northwestern.edu/certificate.

Contact

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