

# Quantitative Finance and Risk Management, M.S.

---

FOX SCHOOL OF BUSINESS AND MANAGEMENT (<https://www.fox.temple.edu>)

Learn more about the Master of Science in Quantitative Finance and Risk Management (<https://www.temple.edu/academics/degree-programs/quantitative-finance-and-risk-management-ms-bu-qfrm-ms>).

## About the Program

Through the Master of Science in Quantitative Finance and Risk Management in Temple's Fox School of Business, students develop expertise in the quantitative modeling and risk management principles and best industry practices driving the financial services industry today. This 30-credit master's degree program is the only program of its kind in the greater Philadelphia region, offering the ideal way to pursue your Financial Risk Manager (FRM) designation and a prestigious master's degree simultaneously.

**Time Limit for Degree Completion:** 6 years

**Campus Location:** Main

**Full-Time/Part-Time Status:** Full-time students are able to complete the degree program in 10 or 22 months, while part-time students taking 8 or fewer credits per term are able to complete the program in two years.

**Affiliation(s):** Research is supported by the Fox School of Business and Management's Advanta Center for Research in Financial Institutions, Center for Healthcare Research and Management, Innovation and Entrepreneurship Institute, and Institute of Global Management Studies. Research interests of the Fox School faculty are also supported by numerous centers and institutes throughout Temple University.

**Accreditation:** All Fox School of Business and Management graduate programs are accredited by the Association to Advance Collegiate Schools of Business (AACSB International).

**Job Prospects:** Graduates are distinctively qualified to contribute in quantitative fields in the financial services industry, including financial modeling, financial risk management, information technology, portfolio management, and securities trading roles.

**Non-Matriculated Student Policy:** Students are not allowed to take classes under non-matriculated status.

**Financing Opportunities:** Citizens and permanent residents of the United States are considered domestic students and are typically eligible for federal student loans as well as alternative loans through private lenders. The Fox School grants 5% tuition scholarships to alumni who are admitted to the program.

## Admission Requirements and Deadlines

**Application Deadline:**

*Fall:*

- December 15 – Early Decision Deadline
- March 1 – Scholarship Deadline and International Deadline
- June 30 – Final Deadline

Applications are reviewed as they are received and can sometimes be considered after the deadline.

APPLY ONLINE (<https://fox.secure.force.com/SiteLogin>) to this Fox graduate program at <https://fox.secure.force.com/SiteLogin/>.

**Letters of Reference:**

*Number Required:* 2

*From Whom:* Academic references and/or professional references from an immediate supervisor, current or past, are expected.

**Coursework Required for Admission Consideration:** A strong record of achievement in multivariate calculus coursework is required.

**Bachelor's Degree in Discipline/Related Discipline:** A baccalaureate degree is required.

**Statement of Goals:** Describe your future goals in specific terms and how the M.S. will assist you in achieving those goals.

**Standardized Test Scores:**

GMAT/GRE: Required. The recommended GMAT score is a minimum of 600.

Applicants who earned their baccalaureate degree from an institution where the language of instruction was other than English, with the exception of those who subsequently earned a master's degree at a U.S. institution, must report scores for a standardized test of English that meet these minimums:

- TOEFL iBT: 100
- IELTS Academic: 7.0
- PTE Academic: 68

**Resume:** Current resume required.

**Transfer Credit:** Transfer credit is not accepted for the Quantitative Finance and Risk Management M.S. degree program.

## Program Requirements

### General Program Requirements:

*Number of Credits Required Beyond the Baccalaureate:* 30

*Required Courses:*

Year 1		Credit Hours
Fall		
Finance Academy, August		
FIN 5602	Corporate Finance	1
FIN 5604	Derivative Markets	1
FIN 5605	Fixed Income	1
FIN 5607	Stochastic Calculus Finance	1
Fall Term		
FIN 5601	Financial Technology	1
FIN 5612	Asset Pricing	1.5
FIN 5614	Continuous Time Finance	1.5
FIN 5615	Data Science in Finance	1.5
FIN 5619	Quant Fixed Income	1.5
FIN 5624	Numerical Methods	1.5
FIN 5627	Financial Econometrics	1.5
FIN 5629	Value at Risk	1.5
FIN 5673	Financial Risk Management I	1.5
FIN 5675	Professional Development	1
Term Credit Hours		18
Spring		
FIN 5622	Machine Learning in Finance	1.5
FIN 5631	Financial Time Series	1.5
FIN 5634	Stochastic Volatility	1.5
FIN 5639	Quantitative Risk Modeling	1.5
FIN 5646	Frontiers in Quantitative Finance	1.5
FIN 5648	Quantitative Portfolios	1.5
FIN 5649	Enterprise Risk Management	1.5
FIN 5674	Financial Risk Management II	1.5
Term Credit Hours		12
Total Credit Hours:		30

**Culminating Events:** Successful completion of coursework is required to earn the M.S. in Quantitative Finance and Risk Management degree.

## Contacts

### Program Web Address:

<https://www.temple.edu/academics/degree-programs/quantitative-finance-and-risk-management-ms-bu-qfrm-ms>

## Department Information:

Fox School of Business and Management  
1801 Liacouras Walk  
701 Alter Hall (006-22)  
Philadelphia, PA 19122  
foxinfo@temple.edu  
215-204-5890  
215-204-7678  
Fax: 215-204-1632

## Submission Address for Application Materials:

<https://fox.secure.force.com/SiteLogin/>

## Department Contacts:

### *Academic Director:*

John Soss, CFA, FRM  
jsoss@temple.edu  
215-204-8453

### *Specialized Master's Programs Coordinator:*

Rachel Carr  
Associate Director for Specialized Master's Programs  
foxms@temple.edu  
215-204-7678

## Courses

### **FIN 5001. Financial Analysis and Strategy. 3 Credit Hours.**

This course develops the conceptual framework that is used in analyzing the financial management problems of business enterprises. Students cover concepts such as the time value of money, the cost of capital, the relationship between risk and return, the valuation of assets such as stocks and bonds, and various corporate finance issues, including capital budgeting, capital structure, corporate financing, and dividend policy.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

### **Pre-requisites:**

(ACCT 5001|Minimum Grade of B-|May not be taken concurrently  
OR ACCT 5003|Minimum Grade of B-|May not be taken concurrently  
OR (ACCT 5301|Minimum Grade of B-|May not be taken concurrently  
AND ACCT 5302|Minimum Grade of B-|May not be taken concurrently)  
OR (ACCT 5401|Minimum Grade of B-|May not be taken concurrently  
AND ACCT 5402|Minimum Grade of B-|May not be taken concurrently))  
AND (STAT 5001|Minimum Grade of B-|May not be taken concurrently  
OR (MIS 5401|Minimum Grade of B-|May not be taken concurrently  
AND STAT 5401|Minimum Grade of B-|May not be taken concurrently)  
OR (MIS 5301|Minimum Grade of B-|May not be taken concurrently  
AND STAT 5301|Minimum Grade of B-|May not be taken concurrently))

**FIN 5101. Fixed Income Analysis. 3 Credit Hours.**

This course provides a theoretical and practical analysis of the spot markets for money, bonds, and other fixed income instruments. Topics include money market instruments, duration and convexity of bonds, yields, default risk, the term structure of interest rates, interest rate volatility, financial risk management of bond portfolios, and securitization. Students are assigned a project that involves financial decision-making and real data analysis.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B-|May not be taken concurrently  
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)  
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

**FIN 5102. Management of Financial Institutions. 3 Credit Hours.**

The objectives of the course are to examine the financial services industry and to apply the fundamental concepts of financial risk management in understanding the decision-making process of this industry. First, the general environment, structure, and recent trends in banking are examined to provide a suitable background. Second, the nature and the industry structure of non-bank financial services firms, such as mutual funds and investment banking firms, are studied. Third, the sources of risk, measurement of risk, and risk management techniques and issues are studied. Risk categories considered include interest rates, credit, off-balance-sheet, operational, and liquidity.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B-|May not be taken concurrently  
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)  
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

**FIN 5103. Financial Risk Management. 3 Credit Hours.**

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B-|May not be taken concurrently  
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)  
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

**FIN 5104. Advanced Corporate Finance. 3 Credit Hours.**

This course builds on the core M.B.A. finance course to develop the critical skills and the analytical tools necessary to apply financial theory to real world situations. The theme of this course is corporate valuation and how corporate decision-making impacts firm value. Four broad topics are covered in this course: cost-of-capital estimation and cash flow estimation; capital structure and dividend policies from the perspective of their impact on firm value; the use of real-option techniques in valuing corporate assets; and mergers and acquisitions, including bidding, takeover defenses, and golden parachutes.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B-|May not be taken concurrently  
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)  
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

**FIN 5105. Advanced Option Theory. 3 Credit Hours.**

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B-|May not be taken concurrently  
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)  
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

**FIN 5106. Interest Rate Options. 3 Credit Hours.**

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B-|May not be taken concurrently  
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)  
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

**FIN 5108. Derivatives. 3 Credit Hours.**

This course provides students with a basic knowledge of the futures, options, and other derivative markets, their market structure, theoretical foundation, and the derivative strategies of both speculators and hedgers.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

(FIN 5001|Minimum Grade of B-|May not be taken concurrently  
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)  
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently))  
AND (FIN 5109|Minimum Grade of B-|May not be taken concurrently)

**FIN 5109. Investments. 3 Credit Hours.**

This course provides an understanding of the theory of investments, and introduces the tools and techniques used in investment management. Topics include portfolio theory; equilibrium models of security prices, including the capital asset pricing model and arbitrage pricing theory; empirical behavior of security prices; market efficiency; performance evaluation; and fixed-income markets.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B-|May not be taken concurrently  
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)  
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

**FIN 5111. Corporate Valuation. 3 Credit Hours.**

This course covers the valuation of public and private companies using discounted cash flow models, market multiples methods, and hybrid models. Valuation techniques within the discounted cash flow paradigm include dividend discount models, free-cash flow models, and residual income. Market multiples methods will include both price and enterprise models. The instructional format of the course is lecture supplemented with case analysis.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B-|May not be taken concurrently  
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)  
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

**FIN 5112. Capital Struc Business. 3 Credit Hours.**

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5113. Financial Analysis & Planning. 3 Credit Hours.**

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5114. Financial Markets and Institutions. 3 Credit Hours.**

This course is a survey course of financial instruments, markets and institutions. Topics covered include time value of money, interest rates and yield curves, financial markets efficiency, fundamentals of financial institutions, depository institutions, and interest rate risk management. While the primary focus is on U.S. markets, the course also considers global financial markets.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5115. Financial Modeling for Investments and Corporate Finance. 3 Credit Hours.**

This course will develop the modeling skills that are used in the investments and investment planning process. Spreadsheet Models for the valuation and analysis of investment alternatives will be developed. These will include portfolio modeling to obtain the optimal asset mix to meet investor's goals, valuation models for both equity and fixed income securities and models for alternative investment such as real estate, commodities, options and other investments. Applications of these models will be used through the case method. Solutions to real world problems that investors face will be addressed in these analyses. In addition, alternate models for determining the expected returns on investment will be addressed. This course will develop the modeling skills that are used in the process of corporate decision-making. It will include the development of models for financial statement analysis and the evaluation of investment decisions including the capital budgeting, cost of capital and company valuation. Application models of NPV, IRR, Payback Period, MIRR and other methods of establishing the cash flows and the relative value of projects as faced by corporate decision makers will be developed. These models will be utilized in real world applications through the case method to address the steps needed to make optimal business decisions. In addition, how to establish the appropriate return on a corporate investment will be modeled and addressed.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B|May not be taken concurrently  
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B|May not be taken concurrently)  
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B|May not be taken concurrently)

**FIN 5116. Financial Modeling: Corporate. 1.5 Credit Hour.**

This course will develop the modeling skills that are used in the process of corporate decision-making. It will include the development of models for financial statement analysis and the evaluation of investment decisions including the capital budgeting, cost of capital and company valuation. Application models of NPV, IRR, Payback Period, MIRR and other methods of establishing the cash flows and the relative value of projects as faced by corporate decision makers will be developed. These models will be utilized in real world applications through the case method to address the steps needed to make optimal business decisions. In addition, how to establish the appropriate return on a corporate investment will be modeled and addressed.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B|May not be taken concurrently  
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B|May not be taken concurrently)  
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B|May not be taken concurrently)

**FIN 5117. Portfolio Analysis. 1.5 Credit Hour.**

This course provides students with a comprehensive look at the theory and practice of the structure of investment portfolios. It will provide an extensive look at efficient diversification and asset allocation models. The course will develop an understanding of the basic structure of Modern Portfolio Theory (MPT) and the development of the efficient frontier and its implications for investors. The securities market line and the Capital Asset Pricing Model (CAPM) will be analyzed and other alternate models for the determination of required rates of return including multifactor model will be explored.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B|May not be taken concurrently  
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B|May not be taken concurrently)  
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B|May not be taken concurrently)

**FIN 5118. Project Analysis & Valuation. 1.5 Credit Hour.**

Every project or asset has a value. The goal of this course is to strengthen and sharpen your skills in the valuing of firms' projects and investments. Topics include discounted cash flow techniques, multiple and comparable techniques, and estimating the appropriate costs of capital. Emphasis is on developing robust financial models for managerial decision-making.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B|May not be taken concurrently  
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B|May not be taken concurrently)  
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B|May not be taken concurrently)

**FIN 5119. Mergers, Acquisitions and Restructurings. 1.5 Credit Hour.**

The course involves analysis of corporate restructuring strategies including mergers, acquisitions, hostile takeovers and the market for corporate control, financial re-capitalizations, leveraged buyouts, management buyouts, going-private decisions, fiduciary duties, and re-organization under bankruptcy. The course combines applied theoretical approach with the case study method through detailed analysis of domestic and global corporate deals. The course is designed so as to create an interface or link between the academic and the practitioner perspectives of various dimensions of corporate restructuring process.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B|May not be taken concurrently  
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B|May not be taken concurrently)  
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B|May not be taken concurrently)

**FIN 5121. Continuous Time Finance. 3 Credit Hours.**

The course deals with continuous time finance with financial engineering applications. The course examines derivatives valuation and risk management, integrating financial economic theory, financial calculus, and computational techniques.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B-|May not be taken concurrently  
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)  
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

**FIN 5122. Financial Markets and Institutions I. 1.5 Credit Hour.**

The objective of the course is to study the environment, practices, and performance of firms operating in the financial services industry, with a particular focus on the banking enterprise. The changing nature of the financial services industry, sources and uses of financial institution funds and sources of risk will be examined. Models of risk measurement will also be discussed.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B|May not be taken concurrently  
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B|May not be taken concurrently)  
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B|May not be taken concurrently)



**FIN 5123. Financial Markets and Institutions II. 1.5 Credit Hour.**

This course will focus on management of the major risks faced by financial institutions. These include: interest rate risk, credit risk, market risk, off balance sheet risk and funding and liquidity risk. Interest rate risk management techniques will include duration management as well as the use of options, futures, caps, floors, collars and swaps for hedging purposes. Credit risk management covers loan sales and securitization. Market risk management employs market models such as Risk Metrics and Back Simulation. Off balance sheet risk management examines non-traditional banking activities and sources of risk. Liquidity risk management will cover reserve management, asset management and liability management. Students will get some hands-on experience by collaborating on a short research project.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B|May not be taken concurrently  
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B|May not be taken concurrently)  
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B|May not be taken concurrently)

**FIN 5124. Working Capital Management Strategies. 1.5 Credit Hour.**

The course emphasizes the set of decisions and problems that financial managers face in determining short-term financial policy, financial diagnostics, and operations of the company. Major topics include identifying working capital elements and their relationships to company operations, financial analysis, cash forecasting, banking relations, cash-flow systems, and short-term investment and borrowing strategies.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B|May not be taken concurrently  
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B|May not be taken concurrently)  
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B|May not be taken concurrently)

**FIN 5125. Corporate Governance and Financing Decisions. 1.5 Credit Hour.**

The course will cover corporate governance topics from the perspective of the firm's capital providers. Specifically, the procedures and mechanisms that shareholders put in place to ensure that managers efficiently and optimally use the capital provided to the firm. Such topics will include boards of directors, managerial compensation, threat of termination, equity ownership structure, and the market for corporate control. The course may also cover managers' and investors' choices in financing the long-term investment decisions of the firm.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B|May not be taken concurrently  
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B|May not be taken concurrently)  
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B|May not be taken concurrently)

**FIN 5126. Financial Risk Management I: Application of Futures. 1.5 Credit Hour.**

This course will be an introduction to the futures market and swap markets for the purpose of risk management. It will include the structure of the markets and the participants. The course will develop the theoretical relationship between the futures contract and spot market. It will concentrate on the use of futures and swaps to hedge a variety of risks including interest rate risk, portfolio risk, asset risk, currency risk and others. The development of hedging strategies will be the general focus in determining the best solution to reduce risk. Futures as an alternate investment will also be explored.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B|May not be taken concurrently  
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B|May not be taken concurrently)  
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B|May not be taken concurrently)

**FIN 5127. Financial Risk Management II: Application of Options. 1.5 Credit Hour.**

This course will be an introduction to the options market for the purpose of understanding its role in investment and investment strategies. It will include the structure of the options market and the trading of options. Theoretical models will be examined and techniques for valuing options will be covered. In addition, the use of option strategies in risk management will be explored concentrating on models to use options as an enhancement to investment portfolios. Other topics will include option strategies, options on futures and other exotic options and their use in the investment process.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B|May not be taken concurrently  
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B|May not be taken concurrently)  
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B|May not be taken concurrently)

**FIN 5128. Global Finance I: Markets. 1.5 Credit Hour.**

This course provides a detailed analysis of international financial markets. Topics include: foreign currency, international money markets, international banking, and international capital markets.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B|May not be taken concurrently  
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B|May not be taken concurrently)  
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B|May not be taken concurrently)

**FIN 5129. Global Finance II: Management. 1.5 Credit Hour.**

The course provides a theoretical and practical analysis of the financing and investment decisions of multinational firms operating in international financial markets. Topics include: international asset valuation, international financing and investments, foreign exchange risk exposure, and country risk management.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

(FIN 5001|Minimum Grade of B|May not be taken concurrently  
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B|May not be taken concurrently)  
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B|May not be taken concurrently))  
AND (FIN 5128|Minimum Grade of B|May not be taken concurrently)

**FIN 5132. Securities Analysis. 1.5 Credit Hour.**

This course provides the student with an introduction to the analysis of securities. It will demonstrate the techniques for the analysis of financial statements to determine the capacity of the firm to generate returns to the stakeholders including equity and debt. It will develop models for the pricing of equity using the discounted free cash flow and relative valuation models. In addition, basic models for the pricing of debt instruments will be addressed. These models will then be used to value securities for the inclusion in investment portfolio looking to create alpha by determining if the securities are under- or over- valued.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B|May not be taken concurrently  
OR (FIN 5301|Minimum Grade of B|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B|May not be taken concurrently)  
OR (FIN 5401|Minimum Grade of B|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B|May not be taken concurrently)

**FIN 5134. Fintech, Blockchain and Digital Disruption. 3 Credit Hours.**

The course gives students exposure to the technological advances that are reshaping the financial services as well as other industries using a variety of outside sources including research papers, business news articles and guest speakers. Specifically, the course focuses on block-chain, digital currencies, artificial intelligence (AI), machine learning (ML), internet of things (IoT), virtual reality (VR) and the regulatory environment surrounding these innovations. We are living in a business world that is always changing, and understanding how to observe and analyze changes is a skill as broadly applicable as it is useful.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

BA 5002|Minimum Grade of B-|May not be taken concurrently.

**FIN 5137. Int'l Fin Mkt & Corp Fin. 5 Credit Hours.**

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5156. Private Equity. 3 Credit Hours.**

This course provides a broad coverage of the private equity market. The course is divided into two distinct segments. The first section addresses the structure of PE funds, evaluation of fund performance, and identification, structuring, and valuation of individual venture capital opportunities. The last segment focuses on leveraged finance and exit. This course is largely case-based, runs at a fast pace, and offers a unique opportunity to interact with private equity industry professionals.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B-|May not be taken concurrently  
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)  
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

**FIN 5170. Special Topics. 1 to 6 Credit Hour.**

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**Pre-requisites:**

FIN 5001|Minimum Grade of B-|May not be taken concurrently  
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)  
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

**FIN 5180. Special Topics Finance. 1 to 6 Credit Hour.**

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**Pre-requisites:**

FIN 5001|Minimum Grade of B-|May not be taken concurrently  
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)  
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

**FIN 5182. Independent Study. 1 to 6 Credit Hour.**

Special study is undertaken in a particular aspect of finance under the direct supervision of an appropriate graduate faculty member. No more than six semester hours of independent study may be counted toward degree requirements.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**FIN 5190. Special Topics - Finance. 1 to 6 Credit Hour.**

Special Topics - Finance

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**Pre-requisites:**

FIN 5001|Minimum Grade of B-|May not be taken concurrently  
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)  
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

**FIN 5282. Independent Study. 1 to 3 Credit Hour.**

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**Pre-requisites:**

FIN 5001|Minimum Grade of B-|May not be taken concurrently  
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)  
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

**FIN 5387. Practicum in Financial Analysis and Strategy. 1.5 Credit Hour.**

The Practicum in Financial Analysis and Strategy provides students hands-on experience in financial statement evaluation and interpretation, valuing projects and companies, and understanding and making business decisions in the corporate environment. In the Practicum, you will become proficient at Excel Modeling; learn about the various databases that corporate managers access; and most importantly, make recommendations or decisions based on the analysis of data. The course is hands-on, i.e., you work with financial data and financial models in an empirical and case setting.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Co-requisites:** FIN 5001.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5501. International Financial Markets. 3 Credit Hours.**

This covers theory, operation, and structure of international financial markets and institutions. International monetary systems, foreign exchange theory, international banking and money markets, and international monetary policy are covered.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B-|May not be taken concurrently  
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)  
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

**FIN 5502. International Financial Management. 3 Credit Hours.**

This course examines how the access and exposure to different currency, country, and market environments can affect the financial and investment decisions of the firm. The course extends closed-economy financial management to the international market environment. Major topics include the relationship between foreign exchange and other financial variables; measurement and management of the exchange risk exposure of the firm; international investment decisions by firms and investors; and financing the global operations of firms.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5001|Minimum Grade of B-|May not be taken concurrently  
OR (FIN 5401|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5402|Minimum Grade of B-|May not be taken concurrently)  
OR (FIN 5301|Minimum Grade of B-|May not be taken concurrently  
AND FIN 5302|Minimum Grade of B-|May not be taken concurrently)

**FIN 5601. Financial Technology. .5 or 1 Credit Hours.**

This course teaches specialized financial software, financial market databases and quantitative financial tools. Financial Technology may be repeated up to one credit hour.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may be repeated for a total of 1 credit.

**FIN 5602. Corporate Finance. 1 Credit Hour.**

This course reviews economic principles governing financial markets and corporate management and develops financial analysis skills. Topics include capital budgeting and cost of capital.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5603. Financial Accounting. 1 Credit Hour.**

This course reviews the practice of financial accounting and develops skills in analyzing financial statements. Topics include financial reporting quality and International standards.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5604. Derivative Markets. 1 Credit Hour.**

This course covers global exchange-traded and over-the-counter futures, options and swap instruments and financial applications. Topics include option investment strategies and structured swap applications.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5605. Fixed Income. 1 Credit Hour.**

This course examines the features and trading behavior of global fixed income markets. Topics include features of debt securities, bond valuation, interest rate risk immunization and foreign exchange.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5607. Stochastic Calculus & Finance. 1 Credit Hour.**

This course covers the mathematical foundations of stochastic calculus with financial applications. Topics include Brownian motion, stochastic integrals and stochastic differential equations.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5608. Ethics and Leadership I. 1 Credit Hour.**

This course examines regulations covering business ethics and standards of professional conduct in the financial services industry.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5609. Ethics and Leadership II. 1 Credit Hour.**

This course continues the discussion of business leadership and professional conduct in the financial services industry.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5612. Asset Pricing. 1.5 Credit Hour.**

This course examines the relationship between financial risk and rates of return. Topics include equilibrium and empirical approaches to asset pricing and international asset pricing.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5613. Derivative Valuation. 1.5 Credit Hour.**

This course explores equity, fixed income, foreign exchange and commodity derivatives valuation and risk management applications. Coursework includes trading in futures and options markets.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5614. Continuous Time Finance. 1.5 Credit Hour.**

This course covers continuous-time financial theory and option pricing methods. Topics include risk-neutral pricing and equilibrium asset pricing.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5615. Data Science in Finance. 1.5 Credit Hour.**

This course explores the tools and techniques of data mining to extract useful information from large financial data sets. Topics include data cleaning, data visualization and data mining for global financial market insights.

**Field of Study Restrictions:** Must be enrolled in one of the following Fields of study: Fin Analysis + Quant Risk Mgt, Financial Analysis & Risk Mgmt, Financial Engineering, Financial Analysis, Investment Management, Quant Fin + Risk Mgmt.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5617. Financial Institutions & Risk. 1.5 Credit Hour.**

This course examines the historical development and inherent risks in the financial services industry. Topics include credit risk, interest rate risk, off-balance sheet risk and regulatory constraints.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5618. Corporate Value Management. 1.5 Credit Hour.**

This course examines the drivers of firm value and develops financial statement analysis skills. Topics include free cash flow valuation, industry analysis and valuation in emerging markets.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5619. Quant Fixed Income. 1.5 Credit Hour.**

The course covers the mathematics driving fixed income markets. Topics include term structure modeling, interest rate immunization and fixed income derivatives.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5621. Structured Finance. 1.5 Credit Hour.**

This course covers the valuation of asset-backed securities and credit derivatives. Topics include mortgage-backed securities, credit default obligations and credit default swaps.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5622. Machine Learning in Finance. 1.5 Credit Hour.**

This course examines machine learning techniques for exploring relationships between financial economic variables and making future predictions. Topics include financial modeling and learning algorithms for global market insights.

**Field of Study Restrictions:** Must be enrolled in one of the following Fields of study: Fin Analysis + Quant Risk Mgt, Financial Analysis & Risk Mgmt, Financial Engineering, Financial Analysis, Investment Management, Quant Fin + Risk Mgmt.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5615|Minimum Grade of B-|May not be taken concurrently.

**FIN 5623. Risk Measurement. 1.5 Credit Hour.**

This course examines alternative measures of value-at-risk (VaR) including stress-testing and scenario analysis. Topics include Monte Carlo Methods and risk management failures.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5624. Numerical Methods. 1.5 Credit Hour.**

This course examines numerical lattice, Monte Carlo and finite difference methods for pricing vanilla and exotic options. Topics include implied trinomial trees and variance reduction techniques.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5627. Financial Econometrics. 1.5 Credit Hour.**

This course examines linear regression and time series models with applications to corporate finance and investments theory. Topics include interpreting regression coefficients and estimating correlation and volatility using GARCH models.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5628. Global Economy. 1.5 Credit Hour.**

This course examines global macro-economic conditions. Topics include monetary and fiscal economics, economic indicators, the European Monetary Union and the causes of financial crises.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5629. Value at Risk. 1.5 Credit Hour.**

This course examines advanced quantitative methods for estimating the risk of financial loss and risk management applications. Topics include scenario analysis, incremental risk and VaR back testing techniques.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5631. Financial Time Series. 1.5 Credit Hour.**

This course teaches methods for analyzing time series data and for forecasting future events. The course offers a mix of financial data analysis together with statistical theory.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.



**FIN 5632. Investment Management. 1.5 Credit Hour.**

This course explores portfolio management for individual and institutional investors. Coursework includes formulating a strategic equity and fixed income asset allocation strategy.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5634. Stochastic Volatility. 1.5 Credit Hour.**

This course examines alternative models of implied volatility and model calibration to observed market data. Topics include the term structure of volatility and jump diffusion models of the volatility smile.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5637. Applied Corporate Finance. 1.5 Credit Hour.**

This course examines corporate financial restructuring and mergers and acquisitions. Topics include leveraged buyouts, industry capital structure and corporate governance.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5638. Behavioral Finance. 1.5 Credit Hour.**

This course examines insights of efficient market theory and behavioral finance for the historical pattern of asset prices. Topics include bubbles, momentum and limits to arbitrage.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5639. Quantitative Risk Modeling. 1.5 Credit Hour.**

This course covers advanced quantitative analysis and assessment of market, credit and operational financial risks. Topics include hedging exotic options and default risk measures.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5641. Alternative Investments. 1.5 Credit Hour.**

This course explores proprietary hedge fund strategies and performance measures. Topics include relative value strategies, distressed debt and real estate investment trusts.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5642. Entrepreneurial Companies. 1.5 Credit Hour.**

This course examines how entrepreneurial firms pursue financing at various growth stages. Topics include private company valuation, venture capital and new issues markets.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5643. Structured Products. 1.5 Credit Hour.**

This course teaches the financial engineering of structured product and hybrid security offerings. Topics include exotic derivatives and tailored investment strategies.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5646. Frontiers in Quantitative Finance. 1.5 Credit Hour.**

Seminar in selected classic and evolving industry methods and applications of quantitative finance.

**Field of Study Restrictions:** Must be enrolled in one of the following Fields of study: Fin Analysis + Quant Risk Mgt, Financial Analysis & Risk Mgmt, Financial Engineering, Financial Analysis, Investment Management, Quant Fin + Risk Mgmt.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5634|Minimum Grade of B-|May not be taken concurrently.

**FIN 5647. Financial Reporting & Analysis. 1.5 Credit Hour.**

This course examines advanced financial accounting practices, theory, and issues. Topics include employee compensation, multinational operations and financial reporting quality.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5648. Quantitative Portfolios. 1.5 Credit Hour.**

This course examines portfolio management based on quantitative techniques versus fundamental valuation methods. Topics include statistical arbitrage and computer-based models for trading.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5649. Enterprise Risk Management. 1.5 Credit Hour.**

This course covers the analysis and development of a best in practice enterprise-wide risk management system. Topics include corporate risk tolerance and strategic risk and capital management issues.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5671. Financial Analysis I. 1.5 Credit Hour.**

This course explores the CFA Program's CFA Level I Candidate Body of Knowledge: ethical and professional standards, quantitative methods, economics, financial reporting, corporate finance, equity investments, fixed income, derivatives, alternative investments and portfolio management.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5672. Financial Analysis II. 1.5 Credit Hour.**

This course examines the CFA Program's CFA Level I and II Candidate Body of Knowledge emphasizing the application of investment tools and concepts in asset pricing.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5671|Minimum Grade of B-|May not be taken concurrently.

**FIN 5673. Financial Risk Management I. 1.5 Credit Hour.**

This course explores the FRM Program's Part I Curriculum covering the tools used to assess financial risk: quantitative analysis, fundamental risk management concepts, financial markets and products, and valuation and risk models.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5674. Financial Risk Management II. 1.5 Credit Hour.**

This course examines the FRM Program's Part I and Part II Curriculum focusing on the application of financial risk management tools.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 5673|Minimum Grade of B-|May not be taken concurrently.

**FIN 5675. Professional Development. 1 Credit Hour.**

This course examines the importance of professional growth to the financial analyst. Topics include career development goals, effective professional communication, leadership and management skills and ethical issues specific to careers in finance.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 5683. Special Study in Finance. .5 to 6 Credit Hours.**

Special study is in a particular aspect of finance under the supervision of an appropriate faculty member. No more than six semester hours of special study may be counted toward degree requirements.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may be repeated for additional credit.

**FIN 5690. Special Topics in Finance. .5 to 6 Credit Hours.**

Special Topics is in a particular aspect of finance under the supervision of an appropriate faculty member. No more than six semester hours of special study may be counted toward degree requirements.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**FIN 5801. Financing the Enterprise. 2 to 3 Credit Hours.**

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

STAT 5801|Minimum Grade of B-|May not be taken concurrently.

**FIN 5802. Enterprise Financial Management. 3 Credit Hours.**

Enterprise financial management deals with the financial implications of decisions made by firms. The two broad decisions facing the finance manager are (i) what projects should I invest in?, and (ii) how do I finance these investments? These questions will be answered in this course as well as learning the basics of enterprise valuation.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

(STAT 5001|Minimum Grade of B-|May not be taken concurrently

OR STAT 5801|Minimum Grade of B-|May not be taken concurrently)

AND (ACCT 5001|Minimum Grade of B-|May not be taken concurrently

OR ACCT 5801|Minimum Grade of B-|May not be taken concurrently)

**FIN 5882. Independent Study. 1 to 6 Credit Hour.**

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**FIN 5890. Special Topics. 1 to 6 Credit Hour.**

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**FIN 9001. Corp Finance Theory. 3 Credit Hours.**

This course is a rigorous introduction to the fundamental concepts and techniques used in modern financial economic research. Topics include individual investment decisions under uncertainty, stochastic dominance, mean-variance portfolio analysis, various equilibrium and arbitrage pricing models, and option pricing. Upon completion of this course, students are expected to acquire a clear understanding of the major theoretical results concerning individuals' consumption and portfolio decisions under uncertainty and their implications for the valuations of securities.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 9002. Empirical Research in Corporate Finance. 3 Credit Hours.**

This course covers a wide variety of topics in corporate finance, including agency theory, capital structure, signaling, executive compensation, ownership structure, boards of directors, corporate control, diversification, venture capital, financial distress, and dividend policy. The analysis is both theoretical and empirical and is based on papers from the leading journals in finance, economics, and accounting. The principal aim of the course is to prepare students to conduct empirical research in corporate finance.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

FIN 9001|Minimum Grade of B-|May not be taken concurrently.

**FIN 9003. Banking and Financial Institutions. 3 Credit Hours.**

This course covers a variety of topics on financial institutions and, in particular, the banking enterprise. Emphasis is on empirical papers. The aim is to prepare students to read the literature critically and to strengthen their independent research skills. Subjects include uniqueness of banks, exposure to interest and exchange rate risks, product diversification, contagion, market and regulatory discipline, and others.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 9004. Seminar in Global Finance and Governance. 3 Credit Hours.**

The course introduces students to the basic academic literature in global finance and governance at a doctoral level and to selected advanced topics in this area. The aim is to prepare students to read the literature critically, to strengthen their independent skills, and to help them be ready to select topic in global finance and governance and related areas. Topics will be flexible to class needs but include corporate exchange risk management, international investments, global corporate governance, firm boundaries, financial and strategic issues of multinational firms, and others.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Philosophy.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School, Sport Tourism Hospitality Mgt.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 9005. Empirical Asset Pricing. 3 Credit Hours.**

This course is designed to help students bridge the gap between theoretical asset pricing models and the data. Students will read seminal works in empirical asset pricing, implement the methodologies in statistical exercises and produce a research paper that extends the existing literature.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:**

(BA 9105|Minimum Grade of B-|May not be taken concurrently)

AND (BA 9106|Minimum Grade of B-|May not be taken concurrently)

**FIN 9011. Proseminar in Finance. 1 to 3 Credit Hour.**

This course is integrated with the Finance department's external seminar series (speakers from other universities) and internal seminar series (speakers are PhD students and department faculty). Students are required to attend all seminars. They must read the paper and ask questions during each seminar. For a selected number of seminars, students are required to submit a critique of the paper within a week after the seminar.

**Field of Study Restrictions:** Must be enrolled in one of the following Majors: Business Administration.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Philosophy.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School, Sport Tourism Hospitality Mgt.

**Repeatability:** This course may be repeated for additional credit.

**FIN 9013. Alternative Investments. 3 Credit Hours.**

Alternative assets have become an increasingly important segment of the financial markets. This course analyzes various classes of alternative assets and how they are incorporated into portfolios for diversification and performance enhancement purposes. Topics include private equity, real estate, merger and arbitrage and fund of funds management.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Science.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 9014. Best Practices in Valuation. 3 Credit Hours.**

Corporate valuation deals with managerial decision-making covering two primary topic areas: (i) what projects should the company invest in? and (ii) how does the company finance these investments? This course will provide an in-depth understanding of the models and processes that managers use in making valuation decisions. In particular, covered topics include DCF model, multiple valuation, and transaction analysis. The course consists of a combination of in-class lectures, online material, and business/finance cases.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Science.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 9015. Corporate Governance. 3 Credit Hours.**

In this course, we examine the underlying theory, principles, and practices that surround the governance of modern corporations. The course focuses, in particular, on the mechanisms that shareholders use to ensure that managers maximize shareholder wealth. We will discuss such topics as boards of directors, executive compensation, large shareholders, executive termination and succession, and government regulation.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Science.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 9016. Derivatives and Risk Management. 3 Credit Hours.**

Financial derivatives are indispensable in today's business environments. The primary reason for the advent of derivatives has been their application to hedging and risk management. Commercial banks, investment banks, asset managers, mutual funds, hedge funds, pension funds, insurance companies, manufacturing companies, transportation companies, and energy companies are among the participants who are affected by changing conditions in the market and hence engage in risk management using derivative instruments. As the financial markets evolve and change derivatives are likely to emerge as even more vital ingredients of risk management for all kinds of corporations and businesses. The financial crisis, on the other hand, has taught us that clear understanding of derivatives and their price dynamics is ever more important now.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Science.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 9017. Dissertation Methodologies. 3 Credit Hours.**

Research can follow many different methodologies in answering important and interesting questions. This class will cover the primary methodologies used in academic and practical research studies. These methodologies include: theoretical, empirical, survey, experimental, case studies, and a more general breakdown between quantitative and qualitative research. In addition to discussing and reading about the different methods, we will examine several different examples that appear in practice-based and academic-based finance journals.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Science.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 9018. Financial Markets and Institutions. 3 Credit Hours.**

This course provides a survey of financial markets and institutions with a strong current events perspective and emphasis on global linkages. The course will have an applied managerial perspective that focuses on both how the markets are viewed by companies who need access to funding as well as the professionals that work in the financial services industry. The course consists of a combination of in-class lectures, online material, and business/finance cases.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Science.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 9019. Investment Allocation and Management. 3 Credit Hours.**

This course will discuss the concepts of portfolio management within the context of individual and institutional investment portfolios. Topics include the portfolio management process and development of investment policy statements, execution of portfolio decisions, evaluation of portfolio performance and Global Investment Performance Standards. Course materials are heavily weighted toward case studies and practical applications.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Science.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 9021. Mergers and Acquisitions. 3 Credit Hours.**

The course focuses on financial tools, techniques, and best practices used in buyouts (financial buyers) and acquisitions (strategic buyers). While we will touch upon various strategic, organizational, and general management issues, our main lens for studying these transactions will be a financial one. We will explore how different buyers approach the process of finding, evaluating, and analyzing opportunities in the corporate-control market; how they structure deals and how deal structure affects both value creation and value division; how they add value after transaction completion; and how they realize their ultimate objectives (such as enhanced market position or a profitable exit).

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Science.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 9022. Private Equity. 3 Credit Hours.**

Understanding the philosophy of science and conduct of scholarly applied research is fundamental for undertaking high-quality research. This course introduces students to the philosophy of scientific inquiry, common research approaches (e.g., quantitative, qualitative) and common epistemological perspectives (e.g., positivistic, interpretative, and critical research). The trade-off between scientific rigor and practical relevance is covered with emphasis on conducting rigorous research with practical implications. Students are introduced to practical issues about undertaking applied research, such as identifying a research topic, forming research questions, conducting literature review, and developing a plan for actual fieldwork and data collection. Finally, the course aims at helping students identify a personal interest in a particular type and area of applied research to undertake specific projects during their tenure as the doctoral program.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Science.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 9023. Real Estate Finance. 3 Credit Hours.**

This course explores real estate finance and quantitative methods that are used in the valuation of real estate. Students develop an understanding of real estate financing and valuation as well as related topics such as underwriting, risk analysis, and financial leverage. In addition, students learn about the mortgage market and the securitization process for residential and commercial mortgages. The course also includes analysis of both residential and commercial real estate markets.

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Degree Restrictions:** Must be enrolled in one of the following Degrees: Doctor of Science.

**College Restrictions:** Must be enrolled in one of the following Colleges: Business & Mngmnt, Fox School.

**Repeatability:** This course may not be repeated for additional credits.

**FIN 9090. Spec Topic Finance. 1 to 6 Credit Hour.**

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.

**FIN 9183. Directed Study in Fin. 1 to 6 Credit Hour.**

**Level Registration Restrictions:** Must be enrolled in one of the following Levels: Graduate.

**Repeatability:** This course may be repeated for additional credit.