FINANCE (FI)

FI 590 Internship in Finance  (1 credit)
A one-credit field-based educational experience for Bentley students with the opportunity to (1) observe finance practices, (2) apply and test hands-on the organizational concepts and methods learned in classes, (3) develop leadership skills, (4) test aptitude and personal preferences for various career directions, and (5) establish a basis for future professional employment. This Internship option is available to Bentley MSF students. Students must work a minimum of 200 hours at an organization suitable for the individual student's field learning experience, and complete specific requirements during their internship in order to receive academic credit. A student is limited to doing one such one-credit internship before degree completion.

FI 623 Investments  (3 credits)
Pre-Req: None
This course provides fundamental knowledge in key areas of investments. In particular, the course will focus on portfolio theory, asset pricing, equity valuation, fixed income valuation and risk, and option pricing and strategies.

FI 625 Corporate Finance: Theory, Tools and Concepts  (3 credits)
Pre-Req: GR 524 or PF 503. Not open to students who have completed GR525.
The course extends the basic understanding of financial concepts and tools by emphasizing the modern fundamentals of the theory of finance. It develops the ability to apply financial analysis, planning and valuation techniques to solving financial problems. The course covers issues related to how managers manage the assets in place, identify and evaluate future investment opportunities, and analyze sources and costs of capital necessary to fund these projects. Topics are presented in an environment that includes strategic, global and technological issues where appropriate and relevant.

FI 627 Corporate Finance: Applications and Advanced Topics  (3 credits)
Pre-Req: FI 625 for MSF; For all others: FI 625 or (GR 525 if taken at Bentley). This course hones analytical skills by exploring applications of concepts and tools introduced in GR 525 and FI 625. It is a case-based course where students examine a wide range of topics in corporate finance in a real-world setting. Issues examined can include, but are not limited to, building financial forecasts, estimating a cost of capital, making corporate investment decisions, private equity financing, the decision to go public, long-term financing choices, management buyouts, the economics of mergers, acquisitions and divestitures, and corporate risk management.

FI 631 Financial Modeling  (3 credits)
Pre-Req: FI 625 or (GR 525 if taken at Bentley).
Financial Modeling is focused on applying sophisticated Excel techniques to the most common modeling problems in finance. The skill set is expanded to include advanced features of Excel including TVM and statistical functions, array manipulation, text and date usage, regression, conditionals, Boolean operators, data tables and random number generation. Subsequently the course will cover macro recording as well as custom subroutine and function construction in the Visual Basic for Applications (VBA) development environment. All techniques learned will be applied to the most common financial modeling problems of the day including financial statement forecasting, present value, cost of capital, and valuation.

FI 635 Fixed Income Valuation and Strategies  (3 credits)
Pre or Co-Req: FI 623.
This course covers the pricing of fixed income securities, examining topics such as bond mathematics, term structure of interest rates, repurchase agreement market, pricing of default risk in the context of high-yield corporate bonds, foreign exchange risk in the context of foreign currency denominated bonds, and pricing prepayment risk in mortgage-backed securities. More advanced topics include the tools and their application under realistic assumptions in the real world, application of duration and convexity under realistic yield curve assumptions, risk and return in the high-yield bond market and related structured products, option-adjusted spread modeling in mortgage-backed securities pricing, the mortgage derivatives markets, and foreign currency denominated bond investment. This course requires econometric analyses that involve using the resources of the Trading Room. Assigned readings include journal articles from applied academic finance journals and research reports from Wall Street firms.

FI 640 Equity Valuation  (3 credits)
Pre-Req: FI 623.
This course teaches students to value equity securities, starting with the top-down approach and industry analysis/forecasting. It examines valuation theory, models and applications. Students analyze the IPO process to gain a detailed understanding of equity market operation, issues that affect these markets and where they are headed. More advanced topics include the implications of financial statements on cash flow and risk, the exploration of valuing distressed or bankrupt companies, closely held firms, and venture capital situations. The course requires extensive use of applied academic journals, the financial media, and resources available in the Trading Room.

FI 645 Derivatives  (3 credits)
Pre or Co-Req: FI 623.
This course provides materials and projects that will allow students to develop a detailed understanding of the design, mechanics and pricing of derivative securities in risk management. The concept of the law of one price will be stressed and includes the application of the tools and inputs (quantitative techniques as developed in ST 625) necessary to value derivative securities. The mathematical requirements of the course are primarily algebraic, but the student will also need to rely on statistical methods and some calculus. Please note that this is not a survey course. It is an intensive introduction to derivative securities pricing and market mechanics.

FI 650 Advanced Portfolio Theory and Practice  (3 credits)
Pre-Req: FI 623.
This course will provide the students with the issues, techniques and methodologies associated with constructing and evaluating portfolios. The course will use material from ST 625, including both statistics and calculus, to analyze issues such as diversification, optimal portfolio selection, capital market theory and application, performance evaluation, efficient markets, and behavioral finance, among others. The course will also address ethical issues and the professional code of conduct as it relates to portfolio management.
This course has three broad objectives. The first is to examine a framework for formulating value-enhancing corporate strategies, both short term and long term. The second is to study a variety of financial policies, and develop an understanding of how financial policy is an integral part of any value-maximizing corporate strategy. The third objective is to apply the value-maximization framework and tools to conduct an in-depth evaluation of corporate strategy for a selected firm. Various strategic decisions to create stakeholder wealth will be discussed through case discussions and analysis of actual companies. Analysis of financial decisions in a framework that views a business strategy as a series of options rather than a series of static cash flows will be discussed.

FI 701 Internship in Finance (3 credits)
To enroll in an internship, the student must contact the Graduate Student and Academic Services Office to begin the appropriate paperwork. Once completed, the student will be manually registered.
This course affords students the opportunity to enhance self-realization and direction by integrating classroom study with experience in professional financial environments. It requires development in cooperation with the potential employer of a proposal defining the internship experience. Consistent with the student’s professional goals, the proposal should detail either a specific project or a structured development program. The course includes regular meetings in which students discuss issues and business problems related to their work experience, and defend proposed solutions before fellow students and the internship coordinator.

FI 730 Management of Financial Institutions (3 credits)
Pre or Co-Req FI 625 for MSF; for all others Preq of FI 625 or (GR 525 if taken at Bentley).
This course analyzes the environment, structure and operation of depository financial institutions while concentrating most heavily on commercial banks. It reviews the complex role of depository institutions within a changing industry and examines criteria used to measure performance. The course presents the analytical methods used to evaluate the efficiency of operations, the market position, and the development of the institutions. Factors leading to growth and profitability, both internal and external to the firm, are evaluated. Issues specific to the international operations of U.S. banks as well as the domestic operations of foreign banks are explored. The course examines the exposure to risk of various kinds and methods used to minimize those risks. Both cases and current issues are used.

FI 735 Mergers and Acquisitions (3 credits)
Pre-Q: FI 625 for MSF; For all others: FI 625 (or GR 525 if taken at Bentley).
This course studies mergers and acquisitions, both as a growth strategy and as a means of increasing the market value of the firm. Students develop the skills to scan the environment for potentially attractive targets, and thereafter, to determine the terms of a merger. Through the case analysis method, students test pre-merger conditions against post-merger facts to form judgments about the soundness of a given merger. Accounting treatment of mergers, as well as the role of tax and antitrust laws, is studied.

FI 751 International Financial Management (3 credits)
Pre or Co-Req FI 625 for MSF; For all others: Pre-Q: FI 625 (or GR 525 if taken at Bentley).
This course deals with the international aspects of corporate finance and investing. Areas covered include foreign exchange with emphasis on exchange rate determination, exchange risk, hedging and interest arbitrage, international money and capital markets and international financing, multinational capital budgeting, cost of capital and international portfolio management.

FI 774 Computational Finance (3 credits)
Pre-req: GR 526 and FI 623
The course covers the application of advanced mathematical methods to solve complex problems in Finance. Mathematical topics will include computational methods, simulation methods, numerical methods and stochastic processes. The course presumes an advanced understanding of financial markets and instruments and will use software such as MATLAB extensively for a series of application projects.

FI 787 Large Investments and International Project Finance (3 credits)
Pre-Q: FI 625 for MSF; for all others FI 625 or (GR 525 if taken at Bentley).
This course provides an overview of project finance employing the latest techniques for structuring transactions, including risk mitigation by financial intermediaries. Students will be introduced to substantial research data and informational resources. Decision-making and prioritization of tasks, policy formulation, the selection of world-class partners and on-the-ground operational skills necessary to ensure timely completion of construction, budget adherence and efficient start-up are stressed. Large investment projects across a variety of geographic regions, industrial sectors and stages of project execution are examined. The important differences in risk between domestic and export sector projects will be contrasted, including management of foreign exchange issues and the role of host governments. Case studies and an international development valuation project will add depth to the text material. Comfort with Excel spreadsheets and the analytical tools is recommended.

FI 799 Experimental Course in FI (3 credits)
Experimental courses explore curriculum development, with specific content intended for evolution into a permanent course. Topics may be offered twice before becoming a permanent course. Students may repeat experimental courses with a different topic for credit.