Leading Through Innovation

The Berkeley MFE
Masters in Financial Engineering
Real-World Solutions for
Financial engineers play an increasingly integral role in investment banks, commercial banks, and other corporations. Anticipating this need has been the Master’s in Financial Engineering (MFE) Program at the Haas School of Business, ranked #1 by Global Derivatives in 2004. We are readying a new generation of professionals to apply theoretical finance knowledge, numerical techniques, and statistical and computer modeling skills to structured financial products with customized risk/return profiles to control risks and make informed pricing, hedging, and portfolio management decisions.

As a Berkeley MFE student, you learn to think like a financial economist and gain market savvy and in-depth understanding of the mathematical framework that underlies financial markets. You benefit from the application-oriented approach of the curriculum—the only MFE curriculum developed completely by a business school. Through the program, you will launch your career having gained experience in dealing with exotic derivatives instruments and complex structured products for all asset classes, such as fixed income, equities, credit, and commodities. That experience comes not only from coursework, but from a hands-on applied finance project and a ten- to twelve-week internship.

Studying at one of the nation’s top-ranked business schools also affords access to top-notch research tools, career services, and corporate contacts. We will help you hone your job-seeking skills and will work actively to connect you with employers that can offer challenging and rewarding internships and full-time positions.

In choosing to pursue an MFE at the Haas School of Business, you choose a rigorous course of study delivered by one of the best finance faculties in the world with professors who are practitioners as well as dedicated researchers. The program’s small size encourages students to learn from each other and its top academic standards allow for teaching at the highest level. Designed to keep you ahead of industry innovations, the Berkeley MFE Program positions you to apply quantitative “rocket science” to real-world financial problems.

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The MFE Program at the Haas School of Business prepares students for technically sophisticated jobs in investment banks, insurance companies, money management firms, hedge funds, treasury departments, diversified financial services companies, asset-management firms, and equity/venture capital firms, as well as other non-financial corporations. The program serves students seeking comprehensive technical knowledge of arbitrage, hedging, futures and options pricing, portfolio management, trading, and dynamic investment strategies in bond, currency, options, and other financial markets.

The MFE requires only one year of study, which makes it attractive to students with strong quantitative skills and focused career interests. The MFE may also be seen as an attractive alternative to a doctoral program in finance for individuals interested in commercial rather than academic careers. The combination of skills – understanding of complex financial strategies, financial modeling ability, and computational proficiency – is in high demand, and is difficult for employers to find in graduates of standard MBA or engineering programs. As an MFE student, you will learn how to combine modern portfolio theory and computational methods with a practical knowledge of the forums in which you can employ these skills.

Quality Instruction

The MFE faculty is comprised of distinguished finance instructors from the Haas School of Business at UC Berkeley, the Anderson Graduate School of Management at UCLA, UC Irvine’s Paul Merage School of Business, and UC San Diego’s Rady School of Management. The MFE faculty performs preeminent research in quantitative finance, research that feeds directly into the MFE curriculum. Many of these scholars also have practical experience in the creation of financial instruments and software and the implementation of innovative financial strategies. Their expertise is widely recognized and respected.

Competitive Admissions

The MFE program office expects to receive a very large number of applications for the 2009-2010 admissions cycle. The 60 students who are enrolled will have a high level of intellectual curiosity, a strong interest in finance, and strong analytical skills. Though there is no specific degree requirement, most students will have backgrounds in quantitative disciplines such as mathematics, statistics, the physical sciences, engineering, operations research, computer science, finance, or economics. It is also expected, though not required, that applicants have work or research experience in which they have applied quantitative skills creatively. In order to screen for candidates who have the ability to succeed in the program, the admissions committee carefully reviews all parts of an individual’s application, including grades, test scores, recommendations, and essays.

THE MFE EXPERIENCE

The Leading Edge of Innovation

Jim Gilliland
MFE 02
Head of International Fixed Income Investments
Barclays Global Investments
San Francisco, California

Previous degree:
BS, Finance
University of British Columbia

Previous position:
Chief Strategist
HSBC Asset Management Canada

“I chose Haas for its worldwide reputation and for the MFE’s business-focused coursework in portfolio management, quantitative risk management, and dynamic investment strategies,” says Jim Gilliland. “The Haas MFE’s unique broad training in applying quantitative methods enabled me to integrate and build upon my background in finance and mathematics.”

Ranked #7 among the top 20 rising stars of Fixed Income by Institutional Investor News, Gilliland is responsible for the North American Fixed Income investment activities that drive active strategies across credit, securitized credit, sovereign and emerging markets. Since joining BGI in 2002, he has been responsible for a variety of research and strategy related activities. Gilliland has over 12 years of experience managing institutional portfolios.

Prior to joining BGI, Gilliland was chief strategist for HSBC Asset Management Canada. While at HSBC, he was co-head of the investment team and responsible for deriving and implementing the firm’s asset allocation and fixed income strategy. In addition, he served on the Global Investment Strategy Group and was a member of the firm’s board of directors.
Tailored Curriculum

MFE courses are designed exclusively for MFE students, and are seamlessly integrated with one another. This cooperation between course material allows the mathematical, statistical, and computer science methods to be integrated with the theoretical framework and institutional settings which they are applied. For example, macroeconomics is taught in the relevant context – in the fixed income markets course, during the discussion of term structure, and during the equity and currency markets course, in the context of exchange rate determination. Similarly, insurance concepts are introduced in the advanced derivatives courses where students can easily understand their relation to similar products – insurance and option contracts.

The MFE program requires satisfactory completion of 28 units of coursework plus an internship or on-site project. In addition to coursework, the MFE educational experience includes the following:

Financial Practice Seminars: MFE students are encouraged to attend weekly discussions held by finance practitioners. In the first term, speakers discuss jobs available to graduates of the MFE Program and the skills needed to contribute to a firm’s mission. In the second term, speakers provide insights into the way financial world is changing: new products and needs; evolving data and information systems; and similar topics.

Applied Finance Project: MFE students are required to complete an applied finance project that develops or uses quantitative finance tools and techniques learned in the program or internship.

Internship Program: The Internship/ Special Topics in Finance project is a required condition for graduation. This internship, approved on-site project, or faculty-supervised applied finance project takes place from mid-October to mid-January.

Interns, Goldman Sachs

Alain Griveau
MFE 08 (left)
Volatility Strategies, Equity Division
Goldman Sachs
Tokyo, Japan
Previous degrees:
MS, Nuclear Engineering
University of California, Berkeley
Ecole Polytechnique (France)

“Learning both advanced quantitative methods used in finance and essential business insight was facilitated by the emphasis on teamwork and project-based learning. The MFE Program is a great complement to my engineering background and has ideally prepared me to address real-world financial problems.”

Delphine Bouyssarie
MFE 08 (second from left)
Sales Strategist
Goldman Sachs
New York, New York
Previous degree:
BS, Applied Mathematics
Ecole Nationale des Ponts et Chausses (France)

“With its strong practical focus, the MFE Program has complemented my theoretical background in financial mathematics. I chose this program because of its renowned faculty, its balanced curriculum, and the promise of a challenging year. Not only has the program totally met my expectations, but it has also given me the opportunity to discover an incredibly dedicated staff supporting the program. Furthermore, the MFE Program’s ties to the industry have offered me tremendous internship opportunities – in fact, its career placement is, in my mind, what really makes this program stand out.”

Andrew Cowan
MFE 08 (second from right)
Strategist in the Special Situations Group
Goldman Sachs
New York, New York
Previous degrees:
M.Eng, Artificial Intelligence
McGill University (Canada)
BL.Eng, Electrical Engineering
McGill University (Canada)

“Haas simply has the best MFE program. The faculty is very distinguished, drawing as it does from several of the UC campuses. The caliber of the students is often intimidating. And perhaps most importantly, the program is very career-focused with an impressive track record for career placement. In addition, the program is very demanding – the curriculum is designed to give the solid grounding in the financial theory and mathematics necessary to understand the complex products being traded in today’s markets. The markets have been evolving extremely rapidly over the last few decades, with credit derivatives, carbon emission trading, information markets, etc. I hope to someday help redefine the markets in a new way that will add value to people’s lives.”

Xavier Fixaris
MFE 08 (right)
Equity Exotics/Hybrids Trading
Goldman Sachs
Hong Kong
Previous degree:
BS, Applied Mathematics
Ecole Centrale Paris (France)

“The Haas MFE has provided me with the practicality of a business program along with a strong quantitative training. It has helped me develop a good intuition about derivatives and financial markets, and perfectly complements my engineering background.”
Computing Services

Firms employing financial engineers often operate in dynamic, computerized environments, using the latest financial software and databases; employees work in project teams both in-house and via international links. The Haas School’s MFE labs provide students with the opportunity to learn in similar environments to those they will use in the business world. Many MFE courses require the use of complex software tools and analytical programs. Through many hours of hands-on experience, students master the skills that will be required in their future careers.

MFE Research Computing Laboratories are equipped with dual flat-panel display Dell Precision workstations. Each workstation has the latest software and tools available for research and practice. Programs such as SAS, Matlab, SPSS, EViews, and Mathematica are available in the lab and remotely through the Haas Unix research server and the Haas Windows terminal servers. Visual C++, Visual Basic, Fortran, and other software development tools are also available. The MFE Program provides students exclusive access to Datastream and Bloomberg terminals located inside the main teaching laboratory.

Throughout the year, the MFE Program offers additional classroom sessions on the use of applications and data sources. These sessions provide training and support for course projects and keep faculty and students abreast of advances in financial tools and technology.

The Haas campus and classrooms are equipped with WiFi technology allowing MFE students with wireless laptops easy access to Haas resources and the Internet. Using wireless technology, students are ensured constant connectivity when moving between different classrooms and labs. One such location is the Fong Collaboratory, a lab designed for group projects, where students can also use communication tools such as Smartboards.

Libraries

The Long Business and Economics Library supports student course assignments and faculty research. The library provides access to business databases and journal archives such as the library’s CD-ROM network, Datastream, Compustat, CRSP, Reuters Research on Demand (RRoD), Factiva, Global Financial Database, JSTOR, Business Source Premier, and Lexis-Nexis Academic. For more information, visit www.lib.berkeley.edu/BUSI.

Shannon Erdmann
MFE 08
MFE internship:
Associate, Equity
Lehman Brothers
New York, New York

Previous degree:
BS, Statistical Science
University of California, Santa Barbara

“The MFE Program is unique in that it provides an outstanding education in both financial engineering and in interview preparedness. For this reason, I feel that I had a great advantage in interviewing for my ideal job.”

Supporting Your Success

STUDENT SERVICES

Shannon Erdmann
MFE 08
MFE internship:
Associate, Equity
Lehman Brothers
New York, New York

Previous degree:
BS, Statistical Science
University of California, Santa Barbara

“The MFE Program is unique in that it provides an outstanding education in both financial engineering and in interview preparedness. For this reason, I feel that I had a great advantage in interviewing for my ideal job.”
Career Planning and Pursuit

From Barclays Global Investors to Lehman Brothers, Berkeley MFE graduates are in demand. A highly dedicated MFE Program staff works to maximize the job-seeking skills of students and employs an extensive network of contacts to secure both internships and career positions.

The MFE program office provides presentation workshops, mock interviews, resume and proposal writing assistance, and career counseling. The office also arranges for recruiting events and on-campus interviews.

MFE students may also take advantage of services available at the Chetkovich Career Center at Haas. Students are able to attend corporate presentations and make full use of the career center’s online company research databases. MFE students may also participate in resume drops for on-campus interviewing opportunities posted on the career center website.

Last year, 100% of MFE students secured a 10- to 12-week internship, which took place over the winter break. After completion of 75% of their coursework, the students are ready to have immediate impact in the areas of valuation, pricing, trading, risk management, project evaluation, and portfolio management decisions. Firms interested in hiring interns submit a topic, short-term project, or skill set they need fulfilled, and qualified students reply with one-page work proposals and resumes. The process also introduces financial firms to those graduates who will be available for career positions post-graduation.

Stelios Kasselakis
MFE 08 (left)
Market Analysis/Statistical Arbitrage
Merrill Lynch
Houston, Texas

Previous degree:
BS, Mechanical Engineering
Massachusetts Institute of Technology

“Students in the Berkeley MFE Program are prepared rigorously in this new financial era where the convergence of math, finance, and computer science is the norm. A financial engineering degree is the inevitable requirement in the current evolution of Wall Street. This is why I made the choice to pursue my degree at Berkeley.”

Su Jin Lee
MFE 08 (second from left)
Associate
Merrill Lynch
New York, New York

Previous degree:
BA, Finance
Seoul National University (Korea)

“The MFE has helped me apply my quantitative skills and finance knowledge to the real problems in quantitative finance. A combination of a well-organized curriculum, various internship opportunities and excellent career care makes the Berkeley MFE program distinguished in this area. Also I learned much from, and had fun studying with, my outstanding classmates with their diverse backgrounds.”

Bram Kaplan
MFE 08 (second from right)
Fixed Income Structurer
Merrill Lynch
London, England

Previous degree:
BS, Actuarial Science
University of Waterloo

“The Haas MFE’s strong reputation is well deserved. The program combines top-notch faculty who are prominent in their fields of research with superb career placement. Moreover, the skills and knowledge taught in the MFE Program are in high demand within the financial industry. The rigorous courses in quantitative methods and financial theory provide a solid underpinning for a career in finance.”

Rejean Dupuis
MFE 08 (right)
Equity Derivatives Research
Merrill Lynch
London, England

Previous degrees:
Ph.D., Astrophysics
University of Glasgow (UK)
BS Math and Physics
Mt. Allison University (Canada)

“The Haas MFE Program offers an intensive training in quantitative finance. The courses are taught by an impressive group of academics and professionals. One of the greatest strengths of the program is the assistance provided to students, ranging from organizing interviewing workshops and one-on-one resume advice to helping secure internships leading to full-time positions.”
CAREER LAUNCH

Employment Report

2007 MFE Statistics
Total Offers: 100
Total Students with Offers: 59
% of Students with Offers: 100% (59/59)
Total Students Placed: 59
% of Students Placed: 100% (59/59)
Average First-year Compensation: $153,934
Median First-year Compensation: $148,500
Average First-year Bonus*: $56,829
Median First-year Bonus*: $51,000
Average First-year Base Salary: $94,447
Median First-year Base Salary: $95,000
*Bonus includes sign-on, un-guaranteed, guaranteed, and relocation

Job Market

Full-time Employers of MFE Graduates
AXA Rosenberg
Bank of Canada
Barclays Capital
Bear Stearns
Bear Stearns International Ltd
Barclays Global Investors
Bloomberg
BNP Paribas
BNP Paribas Japan
Calyon
Citigroup Global Markets
Countrywide Financial
Credit Derivatives Research LLC
CSFB
CSFB Asia
Drake Management
Ernst & Young
Fannie Mae
Fitch Ratings
Global Energy Decisions
Goldman Sachs
Goldman Sachs Japan Co. Ltd
JP Morgan
Lehman Brothers
Lehman Brothers Japan
LRG Capital Group LLC
Monetary Authority of Singapore
Mellon Capital Management
Merrill Lynch
Moody’s KMV
Morgan Stanley
MSCI BARRA
ORIX Capital Markets
PIMCO
Royal Bank of Scotland (RBS)
Shinsei Bank Japan
UBS Hong Kong
United Overseas Bank
Wachovia Securities
Wells Fargo

Job Functions

Asset Management 13%
Consulting 2%
Investment Banking 13%
Research 26%
Strategy 18%
Structured Products/Derivatives 22%
Credit Risk 4%
Credit Reporting 2%
Commerical Banking 9%
Financial Software 4%

Job Industries

Asset-backed Securities 9%
Commodities 4%
Corporate Finance 6%
Credit 35%
Equity 19%
Fixed Income 26%
Foreign Exchange 4%
Private Equity 3%
Sales & Trading 16%
Trading 10%

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I have been recruiting from the UC Berkeley MFE Program since early in its inception. Over the years, the Berkeley MFE Program has become an increasingly important source of new talent for our firm. In my role as recruiter, I interview applicants from nearly all the major financial engineering programs worldwide. I consistently find Berkeley’s to be the top program on an overall basis.

The program design is outstanding, starting with the faculty, who are first-rate in nearly every area of financial engineering. Furthermore, the program’s curriculum is the most wide-ranging of those I am aware of, and the students accepted are of the highest quality. Finally, the willingness of the program designers to reach out to Wall Street practitioners for ideas on candidate qualifications and curriculum has ensured the program evolves to meet the ever-changing needs of the financial community. I have seen those needs continue to increase over the years and expect that trend to continue.

Internships
The Haas School’s MFE internship program runs in the fall from mid-October to mid-January. During this 10-12 week period, students are required to complete a challenging project in quantitative finance at a leading financial organization, or at Berkeley under faculty supervision.

Primary Internship Locations, MFE 08
New York - 30
San Francisco Bay Area - 18
Tokyo - 5
Hong Kong - 3
London - 4

Internship Companies, MFE 08
Barclays Global Investors
BNP Paribas
BNP Paribas HK
Cedarview Capital
Citigroup Global Markets, Inc.
Citigroup Markets and Banking
Duff & Phelps
Financial Mechanics LLC
Goldman Sachs & Co.
Goldman Sachs Asia
Goldman Sachs Japan Holdings
JP Morgan
Lehman Brothers
Mellon Capital Management
Merrill Lynch
Merrill Lynch Commodities
Merrill Lynch, Pierce, Fenner & Smith Limited
Moody’s KMV
Morgan Stanley
Morgan Stanley, London
MSCI BARRA
PMI Mortgage Insurance Co.
Shinsei Bank
Spot Trading
Standard & Poor’s
UBS Securities Asia Limited
WR Hambrecht

Select Internship Titles
Active Equity Research Intern
Analytics Intern, MBS Modeling
Associate, Algorithm Trading
Associate, FX Option Desk
Associate, Global Research
Associate Intern
Associate Intern, Quantitative Research, Market Derived Rating (MDR)
Associate Intern, Research Associate, Quantitative Strategies for Equity Based Investment
Associate, Strategist
AWP Portfolio Manager & Trader, Fixed Income
Credit Analyst, Credit Modeling
Credit Derivatives Intern
Credit Modeling Intern
Credit Risk Research Intern
Fixed Income Strategist
Hybrid Analyst Intern
Intern Associate, ABS Structurer
Intern Associate, Financial Engineer
Intern Associate, Fixed Income Structurer
Intern, Credit Derivatives Research Intern, Equities - Desk-based
Intern, Hedging Strategies
Intern, Portfolio Management & Pricing
Intern, Rotational Program, Equity Derivatives
Research Analyst
Research Analyst, Equity Research
Senior Analyst, Fixed Income Derivatives Trading
Trading Assistant
VP Fixed Income, Mortgage Backed Securities

2008 Internship Statistics
99% of students sought MFE internships (64/65)
100% of students seeking internships held internships (64/64)
100% of internships were paid (64/64)

Internship Salary (domestic)
Average Monthly Salary $8,157
Median Monthly Salary $8,083
**The MFE Curriculum**

**THE MFE CURRICULUM**

**A Solid Foundation**

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**Spring 2009**  
March 24 - May 23 [8 weeks]

- **Fundamentals of Financial Economics** (2 units) Rubinstein
- **Empirical Methods in Finance** (2 units) Valkanov
- **Introduction to Stochastic Calculus** (2 units) Ethier
- **Financial Institutions Seminar I**

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**Summer 2008**  
June 2 - July 31 [8 weeks]

- **Derivatives: Economic Concepts** (2 units) Rubinstein
- **Derivatives: Quantitative Methods** (2 units) Tavela
- **Fixed Income Markets** (2 units) Longstaff
- **Accounting and Taxation of Derivatives** (1 unit) Udgaonkar
- **Financial Institutions Seminar II**

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**Fall 2008**  
August 11 - October 10 [8 weeks]

- **Financial Risk Measurement and Management** (2 units) Janion
- **Advanced Computational Finance** (2 units) Bajaj
- **Success and Failure in Financial Innovation** (1 unit) O'Brien
- **The Design of Securities for Corporate Financing** (1 unit) Phelan
- **Credit Risk Modeling** (2 units) Bajaj
- **Equity & Currency Markets** (2 units) Meese, Kahn

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**Internship Period 2008-2009**  
October 13 - January 9 [12 weeks]

The Internship/Special Topics in Finance project begins October 13, 2008 and ends on January 9, 2009. Students must enroll in MFE230N, the Internship/Special Topics in Finance course for the fall term.

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**Winter 2009**  
January 20 - March 20 [8 weeks]

- Choose 7 units of coursework:
  - **Asset-backed Security Markets** (2 units) Wallace, Jaffee
  - **Dynamic Asset Management** (2 units) Leland
  - **Behavioral Finance** (2 units) Odean
  - Applied Finance Project (Required) (1 - 3 units)

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**Spring 2009**  
March 24 - May 23 [8 weeks]

- **MFE 230A – Fundamentals of Financial Economics**. This course covers the basic theories of asset pricing, from standard discounted cash flow analysis to No Arbitrage Pricing technique for security valuation. Applications include fixed-income securities, derivatives, and contingent claims.

- **MFE230B – Advanced Corporate Finance and Real Options**. This course discusses how financial innovation has been used in order to make better investment decisions, mitigate agency problems, reduce costs of financial distress, and alleviate asymmetric information and on the valuation of real options commonly embedded in investment projects, e.g. the option to expand, contract, and shut down operations temporarily.

- **MFE 230C – Derivatives: Economic Concepts**. This course introduces the use and pricing of derivatives. Topics include basic features of futures and options, binomial and trinomial option pricing, the Black-Scholes formula, volatility measurement, dynamic trading strategies, and exotic options. Course emphasis is economic intuition rather than detailed quantitative analysis, with techniques and arguments developed using the simplest possible mathematics.

- **MFE 230D – Derivatives: Quantitative Methods**. This course emphasizes the pricing of derivatives in continuous time, from the formulation of the pricing problem to the implementation of computational and numerical solution techniques.

- **MFE 230E – Empirical Methods in Finance**. This course covers the empirical analysis techniques commonly used in quantitative finance. Students use latest tools in fixed-income analysis and securitized bond markets. Students apply the latest tools in fixed-income analysis and classic economic and financial models to evaluate securitized bond markets.

- **MFE 230F – The Design of Securities for Corporate Financing**. This course explores the role capital markets play in solving financial objectives of issuers of securities and investors. Case analysis and strategic decision-making are emphasized.
MFE 230Q – Introduction to Stochastic Calculus (and Numerical Methods in Finance). This course presents the concepts and tools of stochastic calculus as required for effective pricing of complex financial derivatives in continuous time, and introduces the fundamentals of elementary numerical analysis. The course stresses the practical applications of stochastic differential equations, Ito integrals, and measure transformations as required for advanced financial engineering practice and understanding of asset pricing theory.

MFE 230R – Advanced Computational Finance. This course is a deeper analysis of numerical and computational issues in pricing and calibration, and builds on the techniques learned in Derivatives: Quantitative Methods. Emphasis is on hands-on case projects with heavy use of computational techniques.

MFE 230S – Behavioral Finance. This course covers elements of behavioral decision theory and its implication in financial markets. Focus is on the psychological processes by which people make judgments and decisions, and the heuristics and biases associated with these decisions.

MFE 230V – Credit Risk Modeling. The course provides exposure to the practical challenges associated with building and testing credit risk models for use by banks and asset managers. Emphasis is placed on model building, model valuation, and interpreting model output.

MFE 230W – Accounting and Taxation of Derivatives. The broad purpose of this course is to help financial engineers understand the implications of the innovative financial instruments that they construct on firms’ financial statements and tax liability.

Practice Seminars I and II. These weekly seminars feature guest speakers from financial services firms discussing the work of financial engineers in their firms and the kinds of skills and personal attributes they are seeking for this work, trends in the provision of financial services, the information and computing systems being adopted, new product developments, regulatory issues, and similar topics.
Mukesh Bajaj, Managing Director of Finance and Damages Practice and Board of Directors, LECG, LLC. Ph.D. (finance), University of California, Berkeley. Corporate finance and financial strategy, dividend policy, capital and ownership structure, determinants of stock returns, design and pricing of securities.


Jeffrey Bohn, Managing Director, Financial Strategies Division, Shinsei Bank. Ph.D. (finance), University of California, Berkeley. Risky debt valuation, credit derivatives, banking, risk management, and global portfolio management.

Gregory Duffee, Assistant Professor. Ph.D. (economics), Harvard University. Pricing and trading credit risk (theoretical and empirical), term-structure modeling, risk management of financial institutions. Formerly a member of the Trading Risk Analysis group at the Federal Reserve Board.


Richard K. Lyons, Professor of Finance. Ph.D. (economics), Massachusetts Institute of Technology. Foreign exchange markets; volatility, volume, high frequency dynamics, and dealer behavior; micro-institutional approach to foreign exchange; transparency in dealership markets. Trustee for Matthews International Funds.


Terrance Odean, Associate Professor. Ph.D. (finance), University of California, Berkeley. Behavioral finance.


Richard Stanton, Associate Professor. Ph.D. (finance), Stanford University. Mortgage markets—payment modeling, valuation and hedging, term structure modeling and valuation of derivative securities; application of nonparametric estimation techniques to the hedging and pricing of derivatives.

Domingo Tavella, Principal of Octanti Associates, Inc. Ph.D. (engineering), Stanford University. Computational methods in financial pricing, stochastic simulation in finance and insurance; financial software development strategies and methods; risk management strategies in finance and insurance; hybrid insurance structures.

Suneet Udpaa, Lecturer. Ph.D. (accounting), Washington University, St. Louis. Evaluating ASPs and reducing costs through outsourcing.

Ronald N. Kahn
Adjunct Professor
Managing Director
Global Head of Advanced Equity Strategies
Barclays Global Investors
San Francisco, California

“When I switched careers from physics to finance in the mid-1980s, there were no established paths,” says Kahn. “Success required a combination of hard work, connections, and luck. Now there is an established path: the MFE Program. I tell every physicist seeking career advice that an MFE program should be at least their Plan B. It requires an upfront cost in both time and money, but a program like the Berkeley MFE is highly likely to lead to a job in finance.”

Kahn is a well-known expert on portfolio management, risk modeling, and quantitative analysis. He has written numerous articles on investment management, and has written (with Richard Grinold) the influential book Active Portfolio Management: Quantitative Theory and Applications. He is a 2007 winner of the Bernstein Fabozzi/Jacobs Levy award for best article in the Journal of Portfolio Management. The 2007 book How I Became a Quant, includes his essay describing his transition from physics to finance.

At Haas, Kahn teaches the equities half of the MFE course, Equities and Currency Markets (MFE 230). He has also developed and taught the course How to Research Active Strategies to hundreds of investment practitioners around the world.

“In our (Berkeley’s) experience, the Berkeley MFE graduates have all the training necessary to contribute starting on Day 1,” says Kahn. “The students are remarkably well-qualified, motivated, and mature. They are also a pleasure to teach.”
The MFE degree at the Haas School can be completed in 12 months of full-time coursework. Applications are accepted year-round, and 60 students are enrolled each year. The program begins and ends only in the spring, and is not available part-time.

The MFE Program no longer sends paper applications through the mail.

For the MFE application and detailed instructions, visit mfe.haas.berkeley.edu.

**Admissions Requirements**

- Valid degree from an accredited institution, comparable to the four-year bachelor's degree from Berkeley
- Sufficient training to undertake graduate study in the chosen field
- A satisfactory scholastic average, usually a minimum of 3.0 in upper-division work

**International applicants:** Please refer to the website for full requirements.

**MFE Admissions Requirements**

- Graduate Management Admission Test (GMAT) or the Graduate Record Examinations (GRE) General Test
- A strong quantitative background including linear algebra, multivariate calculus, differential equations, numerical analysis, and advanced statistics and probability
- Prior experience in computer programming (examples: Visual Basic, Matlab, C++) and familiarity with computers as a computational and management tool
- Excellent writing, speaking, and presentation ability in English

**Admissions Recommendations**

- Work or research experience in a quantitative discipline
- Experience with statistical and econometric applications (examples: SAS, Gauss, RATS, S-Plus, Garch)
- Experience with mathematical tools (examples: Matlab, Mathematica, or MathCad)

In some cases, applicants may be admitted conditionally on the successful completion of one or more recommended courses before enrollment in the program.

**Application Deadlines & Review Schedule for the Academic Year**

<table>
<thead>
<tr>
<th>Beginning March 2009</th>
<th>Completed application will be reviewed by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 17, 2008</td>
<td>March 7, 2008</td>
</tr>
<tr>
<td>June 22, 2008</td>
<td>September 26, 2008</td>
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<tr>
<td>October 1, 2008</td>
<td>December 3, 2008</td>
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**GMAT or GRE:** We require that applicants take either the GMAT or GRE. All GMAT and GRE scores are valid for five years and should not be older than April 1, 2004. When ordering GRE reports, use institution code 4833 and department code 4399. For GMAT, use institution code 4769. Please note that beginning January 4, 2006, GMAT began using a new program code: N2V-F1-87.

**Letters of Recommendation:** We require two letters of recommendation. Letters should come from individuals who are familiar with your training in quantitative methods, and their remarks should address your ability to apply your quantitative skills. Recommendation letters should be written by an individual in a position to evaluate you either professionally or academically (e.g., a supervisor, project leader, or instructor). Recommendations from co-workers, friends, or family members are inadmissible and can be detrimental to your application.
Personal Interviews: Interviews are conducted on an invitation-only basis. Please do not call the office to request an interview. You will be contacted by the MFE program office if an interview is necessary to make a decision on your application.

We invite you to come to one of our group information sessions. On-campus sessions are held from 12:00 to 1:00 p.m. on the first business Monday of every month. You will be able to tour the MFE lab and ask questions of the program director and admissions officers. In addition, we hold information sessions in major cities around the world throughout the year. Please check our information session calendar at mfe.haas.berkeley.edu. To participate, register online at ssl.haas.berkeley.edu/MFEAdmissions/events/.

Credits and Transfers: The MFE Program does not accept any credits or transfers from other universities.

Work Experience: Although work experience is not a requirement, it is strongly recommended. Our 2007-2008 class had an average of four years of work experience upon enrollment.

International Applicants: You are considered an international applicant if you are not a United States citizen or US permanent resident at the time you apply to the MFE Program. Applicants from outside the United States should submit their application materials early, and take their tests no later than August 1, 2008. The Test of English as a Foreign Language (TOEFL) should also be taken no later than August 1, 2008. TOEFL scores are valid for two years and should not be older than April 1, 2007. When ordering reports, use institutional code 4833 and department code 82.

As an international applicant, you should be aware that you are not eligible for financial aid and should be prepared to provide your own financial support and healthcare coverage. After being admitted to the MFE Program, you will need to submit proof of adequate funding for your studies. US embassies will not grant a visa without this information. Aside from the 10-12 week internship, opportunities for employment are severely limited for international students. Spouses on F-2 visas are not permitted to accept employment. If your accompanying spouse wishes to work, both of you should consider entering the country on J visas.

For more information, please contact Services for International Students and Scholars, International House, 2299 Piedmont Avenue, University of California, Berkeley, CA 94720-2321, phone: 510-642-2818; e-mail: sis@berkeley.edu; web: sis.berkeley.edu/siss/.

Please Note: All admission decisions are final, and there is no appeals process.

Application Deadline: The final application deadline is October 1, 2008. Applications for which we have not received all materials, including test scores, recommendation letters, transcripts, etc., will not be reviewed after November 1, 2008.
Each year UC Berkeley’s Financial Aid Office estimates the average cost for a graduate student during the academic year. This budget is the basis for determining financial aid eligibility. You may use the chart below (adjusted for a 12-month program) to estimate the cost of attending the MFE Program. As these official figures are averaged for all UC Berkeley students, actual costs, especially housing costs, may be higher.

**Tuition** $49,725*

**University Health Insurance** $2,415*

**Living Expenses** $27,500*

**Books, Supplies** $3,750*

**Total Estimated Expenses (12 months)** $83,390

*all costs are subject to change

**Computer Costs**

MFE students are required to have their own powerful laptop computer. Various manufacturers offer students discounts at the Scholar’s Workstation, the campus computer store. To contact the Scholar’s Workstation, call 510-642-8424 or visit www.tsw.berkeley.edu.

**Financial Aid**

The MFE Program does not offer scholarships or grants. All assistance is in the form of loans which must be repaid beginning six months after graduation. Due to the nontraditional academic calendar of the MFE Program, students must file two loan applications for the full MFE Program.

**MFE Spring Term 2008 and MFE Winter Term 2009**

- Students who are US citizens or permanent residents apply for federal loans using the Federal Application for Federal Student Aid (FAFSA). The FAFSA is available at www.fafsa.ed.gov. For the spring and summer 2008 terms, students should complete the 2007-08 FAFSA at their earliest convenience. For the fall 2008 and winter 2009 terms, students should file the 2008-09 Renewal FAFSA, beginning January 1, 2008.

- International students can apply for a private loan to cover the entire 12-month academic period. Applications for private loans can be filed at any point within the academic year; however you must first accept admission to the Haas School before applying for a private loan. Information and application instructions are available at www.haas.berkeley.edu/mba/finaid/prvtnba.htm.

**Federal Direct Loans**

US citizens and US permanent residents can finance their education through the Federal Direct Loan Program. Up to $20,500 for every semester (equal to two MFE terms) may be borrowed. Students demonstrating financial need can borrow $8,500 of this amount as a subsidized loan (no interest is charged while the student is in school) and $12,000 in an unsubsidized loan (interest is charged while the student is in school). Those who do not demonstrate financial need can borrow the full $20,500 in an unsubsidized loan. Eligibility is based on student status and cost of education as determined through the FAFSA process, not credit history. The interest rate on direct subsidized loans is fixed at 6.8% for the life of the loan. Repayment is made over a 10- to 25-year term with no prepayment penalty. Visit www.ed.gov/DirectLoan/about.html for updates.

**Private Loans**

Students may apply for private loans, which are offered based on creditworthiness, not financial need. You should obtain copies and verify accuracy of your credit reports before applying for a private loan. The interest rates on these loans are usually higher, so students typically pursue this option last. International students may qualify for private loans if they meet the requirements listed at www.haas.berkeley.edu/mba/finaid/International%20Chart.pdf. Through private loans, a student can borrow up to the annual cost of education for two terms of the MFE calendar, which includes living expenses and registration fees. Repayment of private loans typically begins six months after graduation or dropping below half-time enrollment. Applications for private loans are available at the Haas Financial Aid Office (www.haas.berkeley.edu/mba/finaid/prvtnba.htm).
Private Scholarships

Students may apply for private scholarships offered through various organizations. The Haas School of Business has created a scholarship database that can be searched to find appropriate sources of funding. That database is available at groups.haas.berkeley.edu/mba_program/scholarship/default.aspx. Please note that there is no guarantee that a scholarship will be available to any student, and that although we make every effort to provide a complete listing of available options, we cannot guarantee that every possible option is listed in our database. For further information, contact the Haas Financial Aid Office (www.haas.berkeley.edu/MBA/finaid/index.html).

Haas Financial Aid Office

The Financial Aid Office provides assistance in resolving financial aid & billing problems, and obtaining private student loan information and applications. The office is in room S420K of the Student Services Building. To get help from a Haas financial aid counselor, call 510-643-0183 or e-mail finaid@haas.berkeley.edu.

The Haas Financial Aid staff is your point of contact, rather than the central financial aid office.

Housing

Berkeley graduate students live in both university and off-campus housing. Housing in the Berkeley area is expensive and often in short supply, so you should plan ahead to ensure that you will have a place to live before classes begin. If you are interested in applying for university housing, do not wait for notice of admission to seek information. For more information, visit www.housing.berkeley.edu/housing.

The Community Living Office

This office provides rental listings and counseling for students seeking off-campus housing. For more information, visit www.housing.berkeley.edu/housing or go to the Community Living Office at 2335 Channing Way. Bring your letter of admission and photo identification.

International House (I-House)

This residence and program center houses more than 600 students, many of whom are at the graduate level. You do not have to be an international student to live at the I-House, which is less than a five-minute walk to Haas. For more information, visit the International House Residence Office at 2299 Piedmont Avenue, #2320, Berkeley, CA 94720-2320 or call 510-642-9470.

University Family Student Housing

This housing is available for students who are married and/or have children. Rent for family student housing is less expensive than for comparable off-campus housing, so there is a waiting list. For more information, visit www.housing.berkeley.edu/engatcal/studentfamilies.html.

The University Child Care Program

Child care accredited by the National Academy of Early Childhood Programs, is available for children ages 3 months to 7 years old, and payment is on a sliding scale. At least one parent must be a registered UC Berkeley student. For more information, visit www.housing.berkeley.edu/childfamilies.
What careers has the MFE led to?
Recent graduates have found employment in risk management, fixed income, structured products derivatives, credit risk, market risk, consulting, corporate finance and financial programming. For more detailed information, visit mfe.haas.berkeley.edu/faq39.html.

What are the differences between the MBA Program or Ph.D. Program and the MFE Program?
Please visit mfe.haas.berkeley.edu/faq6.html.

Is work experience required?
Work or research experience in a quantitative field is recommended, but not required. Students in our 2006-2007 class had an average of almost four years of work experience before joining the program.

What is the academic calendar?
The official schedule for 2008-2009 is not finalized. Please visit mfe.haas.berkeley.edu/curriculum.html for the most up-to-date information.

When are the application deadlines for the program year 2008-2009?
The program admits students over four deadlines: January 17, 2008; March 17, 2008; June 22, 2008; and October 1, 2008. Applications received after October 1, 2008 will be reviewed on a space-available basis. Classes begin in March 2009.

How many people do you admit at each deadline?
We only admit the best candidates at each deadline. Students may be placed on hold or wait-listed at any time during the admissions process, whether or not there is still space available in the class. Because there are only 60 spots available, we admit students until we have 60 who have committed to attend.

Do you recommend preparatory classes?
For students who have not taken math, statistics, or financial programming courses in more than three years, we do recommend our refresher courses in order to excel in the program. If you are required to take a pre-program course as part of conditional acceptance to the program, we will accept grades from any accredited college or university. We offer courses in foundation math, statistics, and financial programming at UC Berkeley and online. For details visit mfe.haas.berkeley.edu/preprogram.html.

Where do I order GMAT/GRE reports?
Visit www.ets.org for information on taking the GRE and www.mba.com/MBA/TaketheGMAT for information on taking the GMAT test and ordering reports.

Is the MFE Program offered part-time?
No.

Are fellowships, scholarships, or assistantships available?
There are no fellowships, scholarships, or assistantships associated with the MFE Program. For information on UC Berkeley Graduate Division awards and fellowships visit www.grad.berkeley.edu/admissions/pdf/guidesupport.pdf. For updated information on financial aid, visit mfe.haas.berkeley.edu/faid.html.

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THE BERKELEY MFE PROGRAM

Frequently Asked Questions

For the full list, visit mfe.haas.berkeley.edu/faq.html.

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GW Miller Foundation
The Pinkus Foundation

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NONDISCRIMINATION POLICY STATEMENT

The University of California, in accordance with applicable federal and state law and University policy, prohibits discrimination, including harassment, on the basis of race, color, national origin, religion, sex, physical or mental disability, medical condition (cancer-related or genetic characteristics), ancestry, marital status, age, sexual orientation, citizenship, or status as a covered veteran (special disabled veteran, Vietnam-era veteran or any other veteran who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized). The nondiscrimination policy covers admission, access, and treatment in University programs and activities.

Inquiries may be directed as follows: Sex discrimination and sexual harassment: Nancy Chu, Title IX Compliance Officer, 1-510-643-7985. Disability discrimination and access: Ed Rogers, A.D.A./504 Compliance Officer, 1-510-643-5116 (voice) or 1-510-642-3172 (TTY). Other inquiries may be directed to the Academic Compliance Office, 200 California Hall, #1500, 1-510-642-2795.

CAMPUS SAFETY

In accordance with the Jeanne Clery Act, the University maintains a reference guide of safety information and procedures, annual campus crime statistics, and emergency-disaster preparedness information. For a copy of this report, Safety Counts, call 1-800-632-4400; e-mail: ucpolice@berkeley.edu, or write the Police Department Campus Safety Programs, University of California, Berkeley, Police Department, 1 Sproul Hall #1199, Berkeley, CA 94720-1199. This report is also posted on the UC Berkeley Police Department web site.

Other Educational Programs at the Haas School

Full-time MBA Program
The Full-time MBA Program is a two-year program during the day with approximately 480 students. Although different application materials are required, the Full-time and Evening & Weekend MBA programs share the same curriculum, faculty, and admission standards.

Evening & Weekend MBA Program
Three-year, part-time program for working professionals. Offered on-campus and in Silicon Valley. Ranked in the top three in the US.

Berkeley-Columbia Executive MBA Program
Earn two MBA degrees simultaneously over 19 months from the Haas School of Business and Columbia Business School. For experienced executives.

Ph.D. Program
For students who desire an academic career by preparing them to advance theory and knowledge in the disciplines underlying the practice of business.

Undergraduate Program
Two-year bachelor’s program for juniors and seniors. Ranked among the top three US programs.

Executive Education
Helps individuals, teams, and entire organizations achieve their goals through customized programs and open enrollment courses taught by Berkeley faculty at the workplace or on campus.

Marketing and Communications
Craig Kaufman
Rich Kurvovsky

Design
Cuttriss & Hambleton

Photography
Jim Block
Ed Senuiwell

Printer
Dome Printing

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