The Berkeley Master of Financial Engineering Program provides you with the knowledge and skills to prepare you for a career in the finance industry. In one year, you will be ready to take a leading role in a fast-growing field that demands individuals who can apply their education and skills at the cutting edge of finance in investment banks, commercial banks, and other firms around the world.

Benefits:

- A proven track record of successfully launching careers of its students in the world’s top financial centers.
  - Benefit from highly personalized career services provided by a program team with the connections, reputation, and knowledge necessary to help secure top jobs at the most selective firms.
  - See immediate return on investment: 100 percent of graduates received job offers in each of the previous four years at the highest average starting salary of any similar program.

- A rigorous one-year curriculum developed by a world-class business school, and taught by some of the most distinguished names in finance.
  - Gain an in-depth understanding of the underlying frameworks of financial markets, and benefit from a rigorous application-oriented curriculum that prepares you to work as a financial engineer after graduation, starting on day one.
  - Experience firsthand the ideas and practices shaping the financial engineering industry during an intense 12-week internship at a major firm.

- A collaborative, team-oriented, and powerful professional and personal network for life.
  - Immerse yourself in an intellectually stimulating environment where you not only learn from faculty comprised of some of the best minds in finance, but also from your fellow classmates who represent a wide range of interesting backgrounds and experiences.
  - Develop lifelong friendships and powerful, global connections as a member of the Haas School’s vast alumni network.
Your entire Berkeley MFE experience is designed to give you the knowledge, experience, and connections you’ll need to immediately launch a successful career in financial engineering.

The Berkeley MFE Program at the Haas School of Business provides a depth of study in finance that is not available in traditional MBA programs, reaching beyond basic business concepts to teach you how to combine modern portfolio theory with computational methods. It also provides many opportunities to learn firsthand how to apply these theories and methods to real-world situations. You will also benefit from the quality of students, breadth of activities, and network of impressive alumni contacts inherent to a top-ranked business school and a world-class university.

An Unparalleled Career Advantage

Top employers continue to seek out Berkeley MFE graduates who understand complex financial strategies, possess financial modeling ability, and demonstrate computational proficiency. Berkeley MFE graduates have a successful track record of applying the knowledge gained in the program to launch new careers as quantitative finance experts at leading banking institutions, 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 MFE may also be seen as an attractive alternative to a doctoral program in finance for individuals interested in commercial rather than academic careers.

A Rigorous Curriculum

Designed and tailored exclusively for the MFE students, the program’s curriculum challenges you to think of innovative ways to integrate quantitative methods with the theoretical framework and institutional settings in which they are applied. Taught by a renowned faculty comprised of prominent scholars and industry luminaries, MFE courses are anchored in cutting-edge research and best practices in financial engineering. A 10-12 week internship midway through the program provides you the opportunity to apply what you have learned in the classroom to real-world situations.

A Diverse, Talented Community

The Berkeley MFE Program has a history of attracting exceptionally talented and innovative students who have high levels of intellectual curiosity, strong interests in finance, and strong analytical skills. With only 60 students per class, you benefit from the bonds formed with your diverse, tight-knit community of peers. And as a member of the vast Haas Alumni Network, you will have life-long access to a wealth of career resources, online communities, and local alumni chapters and clubs.

Sandra Vedadi
MFE 10

Previous degrees:
- MS, Engineering (Applied and Financial Mathematics)
  École Centrale de Paris
- BS, Mathematics
  Université de Paris XI, France

Internship:
- Foreign Exchange
  Citigroup, New York, New York

Sandra Vedadi received her internship offer only two months after starting the MFE Program. In addition to her stellar qualifications, she credits the MFE Program Office with helping her secure such an early offer! They are dedicated to finding us internships.

Leveraging the Network

“Since my background was so much more theoretical, I put in touch with a Berkeley MFE alumn that had gone through the French university system, like me. He was able to explain and translate some of the finance fundamentals for me. That sort of camaraderie is typical of Haas students and alumni. And before I started my internship, I used the Haas Alumni Network to connect with alumni who are already working at Citi. They were very helpful and open with their time and their insights.”

Diversity of Ideas

“There must be at least 15 countries represented in my class, from Korea and China to Greece, Bulgaria and Colombia. We reflect the global economy that we will be working in during our careers. Because we all came to Haas with different backgrounds, needs and goals, you can really tailor the program to fit your needs. I feel that I am building a true business and personal expertise here at Haas.”

A Balanced Approach

“Originally, I saw my future in terms of the sell side, since I have a strong background in stochastic calculus. But at Haas, I discovered asset management and economics, which apply more to the buy side. I am feeling very confident now with both sides, which will give me more choices in my career.”

Ian Swanson
MFE 10

Previous degrees:
- PhD, Physics
  California Institute of Technology
- BS, Physics
  College of William & Mary, Virginia

Internship:
- Citigroup
  New York, New York

“I want to do work where I can think deeply about complicated problems. Working in finance with an MFE from Haas will set me up to accomplish that goal.”

“The Haas curriculum exposes you to such a broad range of topics that, no matter what the subject, you always know where to start in a research or trading problem, and what steps to take next. Coming out of this program you can hit the ground running.”

“It was important to me that Haas offers the opportunity to conduct academic research. As an example, I’m working with Marian Micu, who works at Blackrock, on an independent study project that examines certain effects of macro-announcements on exchange rates.”
BUILDING YOUR CAREER

When you join the Berkeley MFE Program, you are one year away from turning your specialized training in trading, risk management, derivatives, and commodities investments into a successful career in finance, strategy, or risk assessment. Haas has an unrivaled history of helping students secure top jobs—Berkeley MFE alumni are well established members of premier firms in the world’s top financial markets, such as New York, London, and Tokyo.

The Haas School’s resources, its deep ties to global firms, and its highly personalized services will provide you with the tools and connections you need to launch the next stage of your career. Employers seek out Berkeley MFE students because they demonstrate not only a mastery of powerful financial engineering tools, but also a solid understanding of the best practices for the changing technological, global, and human dimensions of finance.

Opening Doors to Your Future

Berkeley MFE Alumni in Europe

Krishan Rattan MFE 03 (left)
Director
Deutsche Bank
London, U.K.
Internship:
Morgan Stanley, New York City, New York

“The fact that Haas was one of the first MFE programs attests to the innovation at Berkeley. There was a tremendous intellectual energy that breeds new ideas. Since I didn’t know just where my career would take me, I chose electives that were intellectually interesting. The balance of theoretical and market-facing coursework offered at Haas has served me well.”

Delphine Bouyssarie MFE 08 (center left)
Associate, Equity Derivatives Sales Strategies
Goldman Sachs, London, U.K.
Internship:
Goldman Sachs, New York City, New York

“Because the Berkeley MFE is housed in the business school, it was better situated to give me the real-world, financial industry perspective I wanted. I came to Haas looking for a more practical, hands-on education to complement my background in theoretical, financial math. The MFE program helped me understand how financial math works in the real world.”

Luca Barone MFE 05 (center right)
Partner, Sator SPA, Rome
Internship:
Goldman Sachs, London, U.K.

“The brightest people at Berkeley teach in the Berkeley MFE program. It means so much to listen to the people who wrote the textbooks, to hear the authors explain their work to you. When I started my internship, I felt my Haas courses had prepared me to start contributing from day one.”

Thomas LaRowe MFE 04 (right)
Director, Product Development,
Acumen Global Partners, London
Internship:
Elcitrábel, Brussels, Belgium

“The Berkeley MFE program exposes you to every aspect of the financial industry. It’s an unrivaled opportunity to explore and decide what interests you most. The return on investment on my degree was everything I could have hoped for, intellectually and practically.”

When you join the Berkeley MFE Program, you are one year away from turning your specialized training in trading, risk management, derivatives, and commodities investments into a successful career in finance, strategy, or risk assessment. Haas has an unrivaled history of helping students secure top jobs—Berkeley MFE alumni are well established members of premier firms in the world’s top financial markets, such as New York, London, and Tokyo. The Haas School’s resources, its deep ties to global firms, and its highly personalized services will provide you with the tools and connections you need to launch the next stage of your career. Employers seek out Berkeley MFE students because they demonstrate not only a mastery of powerful financial engineering tools, but also a solid understanding of the best practices for the changing technological, global, and human dimensions of finance.
A highlight of the Berkeley MFE experience is your 12-week internship. This gives you hands-on experience and ongoing connections with practitioners at firms such as Citi, Barclays Global Investors, Goldman Sachs, and Morgan Stanley. These connections have often led to careers at these firms. Your internship gives you immediate opportunities to refine your skills and marketability and helps you build your professional network.

The Internship Advantage
Beginning during orientation, the program office helps to focus you on the internship phase of the program. Staff members work directly with you to uncover and secure your placement at a top finance firm.

To prepare you for your internship search, an on-site consultant provides large and small group sessions covering topics such as interview and résumé writing skills. Both the consultant and program staff are continually available for one-on-one appointments to help you address the career challenges specific to your needs. The program director also frequently addresses the class to give updates on the internship and job search processes.

Early in the program, you will have the opportunity to take advantage of “Super Saturday,” a full day of mock interviews with alumni and field professionals aimed at preparing you for your internship interviews. Actual interviews with corporate representatives are held by appointment at Haas, as well as via telephone or video conferencing.

BUILDING YOUR CAREER

Practical Experience for Real-World Success

A Premier Internship Program
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Finance in the Family

Brothers Thomas and Matthieu Brunet

Thomas Brunet
MFE 06
Assistant Vice President, Advanced Research and Quantitative Strategies, Deutsche Bank
Internships:
Deutsche Bank, New York City, New York
“All my life I had heard of Wall Street. Now, thanks to my Berkeley MFE, I am working here and it is exhilarating.

“My internship and my final class project formed a perfect circle—which informing the other and increasing their value. Better yet, the work produced a trading strategy that we are still using in my group.”

Matthieu Brunet
MFE 09
Sales and Trading, Citigroup London
Previous degrees:
Math and Physics, Lycée Champollion Grenoble, France
MS, Computer Science EISTI, Paris, France
Internship:
Citigroup, New York City, New York

“My internship with the foreign exchange structuring desk at Citigroup was a 100 percent fit with my career goals. The Berkeley MFE Program office practically offered it to me on a silver platter. They are fantastic and relentless in securing internships. I was subsequently offered a full-time position within Citi after my internship.

“The professors at Haas are all so passionate about their work and about passing their knowledge and enthusiasm on to us. They also made themselves very available to us, in class and outside. When Professor O’Brien taught his Innovation class, his passion for the subject was apparent. We explored not just the newest ideas, but where new ideas come from, what makes them succeed or fail.”

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A Clear Path to Your Ideal Job

The Berkeley MFE Program’s highly regarded reputation in the finance community and its well-established relationships with managers and executives at the most prestigious firms provide you with an ideal gateway to the job you want after graduation.

A Proven Track Record

Throughout the year, the MFE program staff is working hard behind the scenes to uncover job opportunities at dozens of leading firms, and to work with those companies and with you to determine the best possible career fit. The Berkeley MFE Program is distinguished by its ability to help students garner job offers from the most desirable companies. Despite the ever-changing economic environment, the Haas School’s record is impeccable—100 percent of MFE graduates seeking full-time employment received job offers in each of the previous four years.

Continuous Personalized Career Services

From your first day as a Berkeley MFE student, the program office works to prepare you to achieve your career goals. Orientation week gives you an initial overview of job opportunities, market trends, and skill sets. Real-world interaction with industry-leading companies starts immediately with a trading-game simulation conducted with representatives from Wells Fargo. Other introductory sessions cover various topics in depth, such as résumé, ethics, and internship preparation.

The program offers a wide range of continuous personalized services, including help with individual career planning, résumé writing, and interview preparation. Group workshops, panels, networking events, and receptions offer valuable information specific to all phases of the career search. The Haas School also hosts two career fairs specifically for MFE students. The October career fair in New York, co-hosted by the International Association of Financial Engineers and New York University, typically draws more than two dozen top financial firms. A second fair, held in San Francisco, draws more than 40 organizations.

Your Worldwide Network

Career support does not end after graduation. From your first day as a Berkeley MFE student, you have access to one of the most robust Haas Alumni Networks, with alumni chapters in major cities around the globe. The Haas online alumni community, Haas@cal, is the focal point for alumni connections and services, and keeps you up to date on happenings at Haas. "The Berkeley MFE program offers a unique combination of theoretical and practical courses not seen in other programs. It gives you the kind of preparation you need for the workplace. The quality of the teaching and the rigor of courses such as Econometrics, Computational Finance, and Asset-Backed Securities gave me a big edge over graduates of other MFE programs. "Thanks to the preparation I got in my first three quarters at Haas, I was ready to jump right in on the first day of my internship at Merrill Lynch. The same was true when I went to work at Bloomberg after graduation.”

Serge Tchikanda
MFE 07
Quantitative Research & Development Team Bloomberg, New York City, New York
Previous degrees: Ph.D., Mechanical Engineering Georgia Tech, Georgia BS Math & Engineering CUNY
"Being in the business school, the Berkeley MFE program offers a unique combination of theoretical and practical courses not seen in other programs. It gives you the kind of preparation you need for the workplace. The quality of the teaching and the rigor of courses such as Econometrics, Computational Finance, and Asset-Backed Securities gave me a big edge over graduates of other MFE programs. "Thanks to the preparation I got in my first three quarters at Haas, I was ready to jump right in on the first day of my internship at Merrill Lynch. The same was true when I went to work at Bloomberg after graduation.”

A Record of Success

2009 Full-time Employment Statistics

Industry-leading Results

Total Offers: 83
Total Students with Offers: 63
% of Students with Offers: 100% (63 of 64 looking for full-time employment)
Total Students Placed: 63
% of Students Placed: 100% (63 of 64 looking for full-time employment)
Average first-year Compensation: $127,279
Average First-year Bonus: $35,095
Average First-year Base Salary: $95,581

2009 Full-Time Companies

Allstate Insurance Company
Barclays Global Investors
Bloomberg
Citigroup
Claremont Capital Management
CorpBanca
Deutsche Bank
Diversified Credit
Investments
DRW Trading
Duff & Phelps
Ernst & Young, Llp
Exis Capital Management
Fuzzy Logic, LLC
Gifford Financial Associates
Golden State Asset Management, LLC
Goldman Sachs
IMC Trading
Kaukorn Bank PLC
Mallin Capital Management
Millennium Partners
Ministry of Economy, Trade, and Industry, Japan's Government
Monetary Authority of Singapore
Morgan k.
Nicholas Applegate
Novellus
Optiver
Pacific Gas and Electric
PNEA
PriceWaterhouseCoopers
Salt Employed
Shinsei Bank
Singapore Exchange Limited
Salomon Smith
Friedlander Limited
Spot Trading LLC
Sun Trading LLC
Thomson Reuters
Woori Investment Securities

Job Locations

<table>
<thead>
<tr>
<th>Location</th>
<th>Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northeast US</td>
<td>16%</td>
</tr>
<tr>
<td>Midwest US</td>
<td>16%</td>
</tr>
<tr>
<td>South US</td>
<td>10%</td>
</tr>
<tr>
<td>West US</td>
<td>10%</td>
</tr>
<tr>
<td>Europe</td>
<td>6%</td>
</tr>
<tr>
<td>Asia</td>
<td>5%</td>
</tr>
<tr>
<td>Latin America</td>
<td>4%</td>
</tr>
</tbody>
</table>

Job Functions

<table>
<thead>
<tr>
<th>Function</th>
<th>Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consulting</td>
<td>26%</td>
</tr>
<tr>
<td>Entrepreneur</td>
<td>26%</td>
</tr>
<tr>
<td>Risk Management</td>
<td>16%</td>
</tr>
<tr>
<td>Corporate Strategy</td>
<td>8%</td>
</tr>
<tr>
<td>Government</td>
<td>4%</td>
</tr>
<tr>
<td>Energy</td>
<td>3%</td>
</tr>
<tr>
<td>Research</td>
<td>3%</td>
</tr>
<tr>
<td>Sales &amp; Trading</td>
<td>1%</td>
</tr>
<tr>
<td>Credit Risk</td>
<td>1%</td>
</tr>
<tr>
<td>Trading</td>
<td>1%</td>
</tr>
<tr>
<td>Advisory</td>
<td>1%</td>
</tr>
<tr>
<td>Asset Management</td>
<td>1%</td>
</tr>
<tr>
<td>Banking</td>
<td>1%</td>
</tr>
<tr>
<td>Consulting/Research</td>
<td>1%</td>
</tr>
<tr>
<td>Hedge Funds</td>
<td>1%</td>
</tr>
<tr>
<td>Insurance</td>
<td>1%</td>
</tr>
</tbody>
</table>

2009 Full-Time Companies

Allstate Insurance Company
Barclays Global Investors
Bloomberg
Citigroup
Claremont Capital Management
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Deutsche Bank
Diversified Credit
Investments
DRW Trading
Duff & Phelps
Ernst & Young, Llp
Exis Capital Management
Fuzzy Logic, LLC
Gifford Financial Associates
Golden State Asset Management, LLC
Goldman Sachs
IMC Trading
Kaukorn Bank PLC
Mallin Capital Management
Millennium Partners
Ministry of Economy, Trade, and Industry, Japan's Government
Monetary Authority of Singapore
Morgan k.
Nicholas Applegate
Novellus
Optiver
Pacific Gas and Electric
PNEA
PriceWaterhouseCoopers
Salt Employed
Shinsei Bank
Singapore Exchange Limited
Salomon Smith
Friedlander Limited
Spot Trading LLC
Sun Trading LLC
Thomson Reuters
Woori Investment Securities

The Berkeley MFE Program helps students find careers all over the world, including Asia. Three of the program’s recent alumni include (left to right) Nick Sonnenberg, MFE 07, with BNP Paribas in Hong Kong; and Kunal Kanodia, MFE 05, with Shinsei Bank in Tokyo; and Mu Li, MFE 07, with Goldman Sachs in Tokyo.
The Berkeley MFE Program is a professional degree program with a curriculum intended to prepare you to work as a financial engineer immediately after graduating. Anchored in the latest theories and best practices in quantitative finance, 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 in which they are applied. For example, macroeconomics is taught in 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.

Structured for Success

The MFE requires only one year of study, which makes it attractive to students with strong quantitative skills and focused career interests. The program kicks off with an informative and social week-long orientation. During the week-long introduction to the program, you’ll get to know other new students and gain a sense of what the classroom experience will hold. The orientation features team-building exercises and lectures, and workshops on special topics, including a thorough overview of the job market and career resources.

MFE students must successfully complete 28 units of coursework plus an internship or on-site project. Because of the school’s reputation and close ties to the best firms, Haas has an exceptional record of helping students secure internships, consistently placing nearly 100 percent of students each year.

Applied Finance Project

In addition to the internship, 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. Students have the option of completing a one-credit project or three-credit project. Each year, the $5,000 Gifford Fong Award is given to the best three-credit project.

Benefit from Industry Expertise

The curriculum also includes weekly Financial Practice Seminars featuring a diverse slate of 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 the financial world is changing: new products and needs; evolving data and information systems; and similar topics.

Preparing You to Make an Immediate Impact

Guido Marandella

MFE 09

Research Associate,
Fixed Income Department
Citigroup, New York

Previous degrees:
BS, Physics
Università degli Studi di Milano, Italy
PhD, Physics
Scuola Normale Superiore, Pisa, Italy

Internship:
Fixed Income Department
Citigroup, New York

“Getting my Berkeley MFE was absolutely the right decision. It put me in the right place at the right time in my career.”

“We learned from the people who have made important contributions to the field, people like Francis Longstaff and Mark Rubinstein. We learned from the sources themselves. And, even though they are famous people, they are very friendly, always willing to answer questions and discuss.”

“I came to Haas with a strong quant background, so I really enjoyed the classes that gave me the financial fundamentals. Professor Rubinstein was brilliant; he gave us a really unique perspective on the market.”

Jianran Li

MFE 10

Previous degrees:
MS, Computer Science/Applied Math
Ecole Polytechnique, Paris, France
BS, MS, Computer Science
National University of Singapore

“Haas gives you the amazing opportunity to learn about financial theories from their authors. Professor Rubinstein gave real meaning to the mathematical equations in our Financial Derivatives class. It wasn’t just about the numbers; he taught us the concepts and stories behind the numbers.”

A Collaborative Culture

“The MFE program is great, and there are mathematicians, economists among my classmates. Our team projects bring together people with different backgrounds and ways of working. We almost always end up with a well-rounded mix of people who are detail-oriented—the me—and those who see the bigger picture.”

Learning from Experts

“Getting my Berkeley MFE was absolutely the right decision. It put me in the right place at the right time in my career.”

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THE BERKELEY MFE CURRICULUM

Curriculum Overview

Spring (8 weeks)

Fundamentals of Financial Economics
MFE 230A (2 units)
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.

Empirical Methods in Finance
MFE 230E (3 units)
Covers the probability and statistical techniques commonly used in quantitative finance. Students use estimation application software in exercises to estimate volatility, correlations, and stationarity.

Introduction to Stochastic Calculus
MFE 230Q (2 units)
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 and their integrals, and measure transformations as required for advanced financial engineering practice and understanding of asset pricing theory.

Financial Institutions Seminar I
Practice Seminar I (1 unit)
Practice Seminar I (1 unit)
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.

Summer (8 weeks)

Derivatives: Economic Concepts
MFE 230C (2 units)
Introduces the uses 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.

Derivatives: Quantitative Methods
MFE 230D (2 units)
Emphasizes the pricing of derivatives in continuous time, from the formulation of the pricing problem to the implementation of computational and numerical solution techniques.

Fixed Income Markets
MFE 230I (2 units)
Provides a quantitative approach to fixed-income securities and bond portfolio management with a focus on fixed-income security markets, the pricing and uses for portfolio management, and hedging interest rate risk.

Accounting and Taxation of Derivatives
MFE 230V (1 unit)
Helps financial engineers understand the implications of the innovative financial instruments that they construct on firms' financial statements and tax liability.

Financial Institutions Seminar II
Practice Seminar II (1 unit)
Practice Seminar II (1 unit)
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.

Fall (8 weeks)

Required Course:
Financial Risk Measurement and Management
MFE 230M (2 units)
Examines financial risk measurement and management, including market risk, credit risk, liquidity risk, settlement risk, model risk, volatility risk, and curvature risk.

Choose 5 units of electives:

Advanced Computational Finance
MFE 230B (2 units)
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.

Success and Failure in Financial Innovation
MFE 230J (1 unit)
Examines financial innovation and its impact on asset pricing theory, the role capital markets play in solving financial objectives, and applications beyond financial engineering.

The Design of Securities for Corporate Financing
MFE 230P (1 unit)
Students participate in a series of case studies including portfolio insurance, long-term capital management, mortgage-backed securitization, exchange-traded funds, capital structure arbitrage, and corporate enterprise-wide risk control.

Credit Risk Modeling
MFE 230N (2 units)
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.

Equity & Currency Markets
MFE 230G (2 units)
Reviews equity and currency markets with an emphasis on modeling with historical evidence. Volatility, volume, high frequency dynamics, and dealer behavior in currency markets are considered. Practical considerations used in the implementation of various strategies are considered.

Internship Period (12 weeks)

The Internship/Special Topics in Finance project begins in mid-October and ends in early January. Students must enroll in MFE230N, the Internship/Special Topics in Finance course for the fall term.

Winter (8 weeks)

Choose 7 units of coursework:

Asset-backed Security Markets
MFE 230L (2 units)
Explores advanced topics in mortgage and other asset-backed securities. Students apply the latest tools in fixed-income analysis and classic economic and financial models to evaluate securitized bond markets.

Behavioral Finance
MFE 230K (2 units)
Covers the strategies for achieving various investment objectives for portfolios/instruments (equity, fixed income, currency, mortgages, non-traded assets) and applications (investment funds, pension funds, insurance companies, bank investment portfolios).

Real-World Technology Environment
The Haas School's MFE labs provide students with the opportunity to learn in similar state-of-the-art environments to those they will use in the business world, complete with the latest software and databases.

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 labs 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 Berkeley MFE Program provides you with 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.

Comprehensive Research Libraries
The Long Business and Economics Library supports student coursework assignments and faculty research. The library provides access to business databases and journal archives such as the library’s CD-ROM network, Datastream, Comstat, CRSP, Reuters Research on Demand (RROD), Factiva, Global Financial Database, JSTOR, Business Source Premier, and Lexis-Nexis Academic.

* Not all electives are offered each term.
Berkeley MFE faculty members are renowned groundbreakers and thought leaders in the field of quantitative finance. In addition to undertaking preeminent research that feeds directly into the curriculum, many of these scholars also have practical experience in the creation of financial instruments and software, as well as the implementation of innovative financial strategies.

**Pioneers of Financial Engineering**

Many Haas School faculty members have long stood at the forefront of the quantitative finance industry. For example, Professor Mark Rubinstein is renowned for his work on the binomial options pricing model (also known as the Cox-Ross-Rubinstein model), as well as his early work on asset pricing. He is currently an associate editor of eight journals in these areas. In 1993, he served as President of the American Finance Association. Many of Rubinstein’s papers are frequently reprinted in survey publications, and he has won numerous prizes and awards for his research and writing on derivatives including International Financial Engineer of the Year for 1995.

Like Rubinstein, Faculty Director John O’Brien was an early innovator in the investment consulting space. Before joining Haas, O’Brien served as Chairman of the Capital Market Fund, and the S&P 500 SuperTrust, the first exchange-traded fund. He later co-developed the O’Brien 5000 common stock index, later renamed the Wilshire 5000 index, currently the nation’s broadest-based index, considered by many to be the most accurate reflection of the overall market. In 1987, O’Brien was named one of Fortune Magazine’s Men of the Year.

**Professional Faculty Drawn From Business**

In addition to having early innovators and scholars, the Berkeley MFE faculty also draws from some of the most successful business leaders, including Melvin Thomas, managing director and head of currency research; and John Martinez, former director of the firm’s iShares, Inc.

Berkeley MFE faculty have also played important roles in the national and international business communities, serving as consultants, board members, and speakers at major business conferences and seminars. Professor Dwight M. Jaffee has been an advisor to the World Bank, the Federal Reserve System, the Office of Federal Housing Enterprise Oversight, and the US Department of Housing and Urban Development.

**Haas Professor Wins 2009 Nobel Prize**

Haas Professor Emeritus Oliver E. Williamson was awarded the 2009 Nobel Prize in Economic Sciences for his work in the area of economic governance. The Edgar F. Kaiser Professor Emeritus at the Haas School of Business and Professor Emeritus of Economics and Law at the University of California, Berkeley, is a pioneer in the multi-disciplinary field of transaction cost economics, and one of the world’s most cited economists.

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**Nancy Wallace**

**California Chair of Real Estate and Urban Economics**

Ph.D., University of Michigan

Long before the meltdown of the subprime mortgage market and subsequent collapse of staple investment banks, Professor Nancy Wallace’s research determined that Wall Street banks and bond-rating agencies were underestimating the risk of many new mortgage- and asset-backed securities. MFE students benefit from Wallace’s experience and insight as they examine and evaluate the structure and operation of the securitized bond markets in her Asset-backed Security Markets course. A central project has them work together to invent structures for new securities. In the past, these projects have tackled a wide range of interesting areas, from traffic flow issues to energy efficiency and environmental challenges.

“We have had wonderful success with those projects because the students are amazingly creative and innovative,” says Wallace. “It’s exciting to see what they come up with.”

Wallace believes the Berkeley MFE curriculum is successful because it is the most balanced quantitative finance program of any university. “Haas offers the best mix of technology taught in the context of its business and economic applications,” she says. “We’re not just training people to sit in a back room and crunch numbers—Haas develops highly sophisticated problem-solvers who become managers of firms and leaders of industries.”

Despite today’s volatility, Wallace believes demand for highly skilled finance experts remains strong. “There will always be a need to transform unprofitable investment classes into more secureable entities,” she says. “In fact, says Wallace, the demand for risk managers is going to grow substantially for organizations such as the Federal Reserve, the Securities and Exchange Commission, and the Treasury Department.

“Highly trained people are going to have plenty of opportunities. The importance of innovation is not going to go away.”

Thought Leaders, Innovators, and Practitioners
The cornerstone of the entire Berkeley MFE program is its distinguished faculty and the high quality of their courses. At Haas, effective teaching is the top priority. MFE faculty members have regularly earned a median score of “Club 6” in their student evaluations—that is, their median ratings are 6 or higher on a 7-point scale.

In the Berkeley MFE classroom, faculty members emphasize both theory and practice by using a variety of teaching methods. Case studies, seminars, guest speakers, and group projects all facilitate the learning process. Classroom learning is enhanced by numerous opportunities to apply the lessons to real-world situations.

Professors regularly integrate their research findings into new course offerings and reassess the MFE curriculum to ensure its relevance in presenting current issues. In their courses, students benefit by being among the first to learn of faculty discoveries and by studying directly with the inventors of yesterday’s and tomorrow’s innovative theories and principles.


Nicolae Gârleanu, Assistant Professor, Stanford University. Liquidity and risk management, valuation, debt covenants, and securities.

Nancy E. Wallace, Professor and Real Estate. Ph.D. (accounting), University of Michigan. Mortgage contract design, mortgage prepayment and valuation models, asset-backed securitization and pricing, real estate price dynamics, real options in real estate.

Mukesh Bajaj, Managing Director of Finance and Damages Practice and Board of Directors, LECO, 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.


Nicola Garleanu, Assistant Professor, Ph.D. (finance), Stanford University. Stanford University. Liquidity and risk management, valuation, debt covenants, and securities.


Dwight M. Jaffee, Willis H. Booth Professor of Banking & Finance. Ph.D. (economics), Massachusetts Institute of Technology. Loan activities of financial institutions, commercial loan and mortgage markets, credit rationing, asset-backed security markets, catastrophe insurance financing. Board of Directors of Barr Rosenberg Mutual Funds. Visiting Scholar, Federal Reserve Bank of San Francisco.


Richard K. Lyons, Bank of America Dean and Professor. Ph.D. (economics), Massachusetts Institute of Technology. Loan activities of financial institutions, commercial loan and mortgage markets, credit rationing, asset-backed security markets, catastrophe insurance financing. Board of Directors of Barr Rosenberg Mutual Funds. Visiting Scholar, Federal Reserve Bank of San Francisco.

The Center for Teaching Excellence (CITE) promotes best practices in teaching and learning inside and outside the classroom.

Leveraging the experience and insights of veteran instructors, as well as a wide variety of instruc-tional tools and training resources, the CTE manages a full and continuous spectrum of activities and services to continually improve the way education is delivered throughout the Haas School.
As a student in the MFE program, you join a small, tight-knit community of peers. Teamwork and collaboration are staples of the program, and with only about 60 students in each entering class, you will form close bonds with your fellow classmates as you work together on class projects and activities.

You will also benefit from the larger Haas School community, which is distinguished by a unique and engaged student population that is actively involved in planning world-class events, conferences, and networking functions. While Haas students represent a broad spectrum of programs, backgrounds, and experiences, they all possess the confidence without attitude that Berkeley graduates are known for.

A Wealth of Diversity

Resourceful, intelligent, energetic, and, above all, highly motivated: all of these are hallmarks of Berkeley MFE students. Many students have already achieved significant success in their careers, as well as in their prior academic lives—over half have already earned post-graduate and doctoral degrees in other, related areas of expertise. Most MFE students have backgrounds in quantitative disciplines upon entering the program. Because they are diverse and unique as individuals, Berkeley MFE students contribute to the wealth of their classmates’ experience while in school, and add great value to one another as fellow alumni in future endeavors around the world. The relatively small size of the MFE program permits students to get to know most members of their class—strong connections develop between faculty and students, and among students.

A Close-knit Peer Network

As a complement to their coursework, students also have the opportunity to get involved in clubs and extracurricular activities. The student-run Financial Engineering Student Association (FESA) represents student interests to the MFE and Haas administrations and coordinates events specifically tailored to MFE program students. In the past, FESA has sponsored activities as diverse as barbecues, bowling, karaoke, dinners, bar nights, and trips to local attractions such as Napa Valley and Lake Tahoe. Many of the events allow students to bring their families.

Coming to Haas means joining the vibrant, thriving community of a top-ten business school at a premier university. From networking mixers to annual conferences, guest speakers to school-wide events, there’s always something happening at Haas. And, as a member of our highly active student community, you will have the opportunity not only to attend these stimulating and exciting activities, but also to participate in creating and planning them.
Consistently ranked one of the top business schools in the country, the Haas School of Business has a solid reputation for quality and leadership. The business school at The University of California, Berkeley, was founded in 1898, making it the second oldest collegiate business school in the United States, and the first at a public university. Rank, reputation, and experience combine to offer Haas students a rich spectrum of quality resources, noteworthy events, and high-profile speakers.

A University Second to None

In addition to attending a premier business school, Haas students join the larger community at one of the most esteemed universities in the world. The mission of the University of California is to excel in research, teaching, and public service. Over the decades, this mission has developed a culture at UC Berkeley that stimulates greatness.

With the Berkeley MFE program, you earn a degree from a university whose name and reputation open doors around the globe. The proof is in the university's distinguished record of Nobel-level scholarship, constant innovation, concern for the betterment of our world, and consistently high rankings of its schools and departments.

Since its founding in 1868, UC Berkeley has grown with the rapidly expanding population of California and responded to the educational needs of the developing state. By the 1930s, research at UC Berkeley burgeoned in nuclear physics, chemistry, and biology, leading to the development of the first cyclotron, the isolation of the human poliovirus, and the discovery of all the artificial elements heavier than uranium, including Berkelium and Californium. Twenty members of the UC Berkeley faculty have been awarded Nobel prizes for these and subsequent achievements in science, literature, and economics. Today, according to the National Research Council, UC Berkeley ranks first nationally in the number of graduate programs in the top ten in their fields. In fact, 97% of the university’s programs made the top-ten list.

The Perfect Location

Additionally, few geographical areas in the world can meet, let alone beat, the university’s location. The San Francisco Bay Area boasts stunning natural beauty, seductively benign weather, an atmosphere charged with a worldly sophistication, and a distinctive openness to new ways of thinking. It is home to an innovation ecosystem unequaled anywhere in the world, with venture capital firms, established technology powerhouses, and thriving biotech and digital media industries. Many of the most dynamic names in business, from Charles Schwab to Google, call the region home. Innovation is a part of the ethos in the area, and you feel it every day at Haas.
Every year, the Berkeley MFE Program enrolls approximately 60 bright and diverse students from a variety of backgrounds. We encourage you to explore the Berkeley MFE program further, and we invite you to apply for admission.

The MFE degree at the Haas School can be completed in 12 months of full-time coursework. Applications are accepted year-round. The program begins and ends only in the spring, and is not available part-time. The MFE Program does not accept any credits or transfers from other universities.

GMAT or GRE
We require that all 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, 2006. When ordering GRE reports, use institution code 4833 and department code 4399. For the GMAT, use institution code 4769 and program code NQ-FT-87.

Applying for Admission

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. Letters should be written by individuals in a position to evaluate you professionally or academically. Recommendations from co-workers, friends, or family members are inadmissible and can be detrimental to your application.

Interviews
Admissions 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.

International Applicants
If you are not a United States citizen or US permanent resident at the time you apply to the MFE Program, you are considered an international applicant. Applicants from outside the United States should complete their application materials and requisite tests early. As an international applicant, you should also be aware that you are not eligible for financial aid and should be prepared to provide your own financial support and healthcare coverage. For more information on applying as an international student, visit the Services for International Students and Scholars website at ias.berkeley.edu/siss/.

Application Deadlines & Review Schedule for the Academic Year Beginning March 2010

**For complete information on financial aid options and applications, please visit haas.berkeley.edu/MBA/finaid/index.html.**

**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. The different types of assistance available include Federal Direct Student Loans, private loans, and private scholarships. US citizens and permanent residents are eligible to apply for Federal Direct Student Loans, and both US residents and international students are eligible for supplemental loans. Graduate students. Due to the nontraditional academic calendar of the MFE Program, students must file two loan applications for the full MFE program.

**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. Visit tsw.berkeley.edu.

**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. There are several different housing options are available, including single-occupant apartments, family housing, and on-campus residences. If you are interested in applying for university housing, do not wait for notice of admission to seek information. For more information, visit housing.berkeley.edu/housing.

**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
- 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

**Recommendations**

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

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

The best way to know what it’s really like to be a Berkeley MFE student is to come visit and meet some students and faculty. Visiting gives you a chance to learn more about the Haas culture and community, and to check out the facilities.

Information Sessions
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/.

Pre-program Courses
The MFE program also offers pre-program courses to help prospective students review the concepts necessary to be successful in the MFE program. Current courses run from January to March each year and include Math Foundations for Financial Engineers, C++ Programming for Financial Engineers, and Statistics for Financial Engineers. Enrollment is open to the public, and we strongly encourage individuals who are thinking of applying to the program to enroll.

As executive director, my role—among other things—is to develop and maintain contacts with firms to find opportunities for the students and place them in internships and full-time positions.

Establishing strong relationships with the industry has given me a thorough understanding of the needs and requirements of the marketplace, including potential employers. This is an active and ongoing process that started long before the MFE program was actually launched, and these relationships have been very valuable to the program in many respects. They have helped us to quickly establish a reputation, and we’re able to identify the skills that are most likely to be in demand.

Linda Kreitzman
Executive Director of the Berkeley MFE Program

From the Dean

I welcome your interest in the Berkeley MFE Program at the Haas School of Business. The first program of its kind at a business school, the top-ranked MFE program here at Haas continues to offer a rigorous and innovative curriculum, as well as the most successful career services record of any similar program.

The Berkeley MFE Program’s emphasis on excellence and innovation defines the Haas and UC Berkeley environment and culture. Like all Haas students, Berkeley MFE students are intelligent, independent minded, forward thinkers who want to do great things in their lives. Haas faculty members are characterized by their pioneering work that brings new knowledge, insights, and best practices to the world of business, while their outstanding teaching transmits this knowledge to our MFE students. Our professional staff supports the MFE program through their fresh ideas and hard work. And the strong, deep Haas alumni network enables MFE alumni to take full advantage of this powerful coalition of talented, successful individuals. This is a program and a school that sets minds alight, and sets lives on a brighter course.

I encourage you to learn more about our innovative program and invite you to come to the Haas School in person and meet with our faculty, staff, and students.

Sincerely Yours,

Richard Lyons
Bank of America Dean and Professor
Walter A. Haas School of Business