

Berkeley ExecEd | Berkeley Haas

BUSINESS ANALYTICS FOR LEADERS: FROM DATA TO DECISIONS



OVERVIEW

Every smart business decision today is driven by analytics. More and more business leaders are coming to this realization, and as a result, the need to increase their 'data fluency'. This imperative, compounded with the game-changing impact of artificial intelligence, will leave many leaders behind the curve.

Business Analytics for Leaders: From Data to Decisions from UC Berkeley Executive Education provides business professionals with a high-level understanding of the real-world applications of artificial intelligence (AI) and machine learning (ML), two of the primary engines that fuel business analytics. This program focuses on applying analytics techniques to drive business impact, resulting in more

efficiency, better decision making, and strategic advantages for organizations. No coding or advanced analytics experience is required.

Using hands-on activities, live sessions, as well as real-world case studies of companies, you will explore the three pillars of business analytics: descriptive, predictive, and prescriptive analytics. Further, you will discover how data-driven decisions enable stronger business cases and greater agility.

In order to implement data-based decision-making models at your organization, you need credibility, support, and the proper tools. Join UC Berkeley Executive Education to build your data fluency and understand how analytics and AI work together to produce exponential gains.



WHO IS THIS PROGRAM FOR?

Businesses are using analytics to increase efficiency, improve customer service, and identify risks and opportunities across all sectors. This program is designed for business professionals who recognize this growing trend and want to use data and analytics techniques to guide strategy at the top levels of their organizations. (No previous coding or advanced analytics experience is necessary.) Business Analytics for Leaders: From Data to Decisions program could be particularly beneficial for those in the following roles:

Mid- to Senior-level Managers who want to drive innovation at their organizations by leveraging data-based decision-making models. Representative roles include:

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| <ul style="list-style-type: none">• Project Manager• Sales Manager• Finance Manager• Operations Manager• Product Manager• Marketing Manager | <ul style="list-style-type: none">• Director of Product Marketing• Director of Engineering• Director Strategic Products and Services• Investment Directors• Executive Directors |
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Senior Executives and Business Heads who want to better understand the business opportunities that analytics enable, as well as regulations related to data protection and privacy implications. Representative roles include:

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|---|---|
| <ul style="list-style-type: none">• Chief Strategy Officer• Chief Executive Officer• Chief Operating Officer• Managing Director• Chief Technology Office | <ul style="list-style-type: none">• Chief Information Officer• Founder• Partner• Chief Marketing Officer |
|---|---|

Consultants who want to provide client solutions based on the latest data and technology. Representative roles include:

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| <ul style="list-style-type: none">• Digital Transformation Consultant• Principal Consultant | <ul style="list-style-type: none">• Financial Consultant• Management Consultant |
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Data Analytics and Technology Professionals who want to lay out the roadmap for analytics and AI initiatives for their organization, with an objective of solving key business problems. Representative roles include:

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|--|---|
| <ul style="list-style-type: none">• Data Analytics Manager• Information and Data Systems Manager• Technology Innovation Designer• Data Strategist | <ul style="list-style-type: none">• Business Intelligence Manager• Analytics Project Lead• Technology Lead |
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KEY TAKEAWAYS

This program will position you to:



Gain competitive advantages by capturing data-enabled business opportunities



Create data-based decision-making models across your organization



Leverage data and experimentation to drive innovation



Better evaluate business analytics approaches and strategies



Develop a virtuous cycle built on user engagement, data collection, algorithm design, prediction, and improvement



Drive business decisions through practical application of an AI-centric operating model



PROGRAM EXPERIENCE



Live sessions



Videos



Live office hours



Notable guest speakers



Try-it activities



Crowd-sourced activities



Discussions



Demonstrations



Simulations



Peer interactions



Knowledge Checks



Business assignments



Optional technical assignments



Polls



Case studies



Capstone



LIVE NETWORKING OPPORTUNITY HAPPY HOUR

A unique live opportunity for you to interact with one another and build your professional network! Participants can interact with each other, and share personal backgrounds and thoughts on guided questions in an informal and fun way.

PROGRAM MODULES

Over the course of two months, the Business Analytics for Leaders: From Data to Decisions program's systematic approach will better equip you to compete in a rapidly evolving, data-centric world through these modules:

Module 1

Introduction to Business Analytics and AI

From the beginning, Business Analytics for Leaders: From Data to Decisions grounds your understanding of business analytics in the real world by citing actual business cases, not just theoretical applications. Here, we introduce the AI-centric operating model and how to leverage its four components to achieve scale, scope, and innovation. Topics include:

- The three pillars of business analytics
 - Examples of the many ways that AI is transforming how businesses operate
 - The four building blocks of an AI-centric operating model
 - How to avoid common traps in business decision making
 - Capturing the five Vs of big data: volume, velocity, variety, veracity, and value
 - Identifying opportunities and challenges using big data and analytics
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Module 2

Descriptive Analytics: Accessing, Transforming, and Visualizing Data

This module is all about data: how to access it, process it, transform it, and make it AI-ready. We also introduce the concept of data visualization and explore some of the best practices for accomplishing it. Topics include:

- What is data and how do we structure it in ways that we can use?
- How to access and transmit data in the business world
- How do you “clean” data to make it usable?
- How do you reduce data from its abstract form to something tangible?

Module 3

Predictive Analytics: Supervised Learning for Business (Part 1)

Learn how to exploit patterns in historical data to forecast future events using predictive analytics, a key tool for identifying risks and opportunities. We also examine the scope of supervised learning in business using actual examples. Topics include:

- A thorough explanation of predictive analytics and ML
 - How to apply supervised learning techniques such as linear regression and logistic regression to business cases
 - How to implement the perceptron algorithm to make business decisions
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Module 4

Predictive Analytics: Supervised Learning for Business (Part 2)

Continuing our discussion of supervised learning and predictive analytics, we introduce state-of-the-art AI techniques to enable data-driven decision-making. Topics include:

- How to design a decision tree
 - “Random forests” and how they combine the simplicity of decision trees with flexibility
 - How deep learning and neural networks can drive business insights
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Module 5

Descriptive Analytics: Unsupervised Learning for Business

In this module, we switch to unsupervised machine learning, which can help you uncover new data patterns. The wide range of business applications spans everything from customer segmentation to detecting fraudulent transactions. Topics include:

- An explanation of K-means clustering and hierarchical clustering and how they reveal previously unseen patterns
- How “dimensionality reduction” can make data more manageable and actionable

Module 6

Prescriptive Analytics: Reinforcement Learning for Business

Here we explore the ways that AI-centric businesses use reinforcement learning for recommender systems, web advertising, stock trading, healthcare, and many other applications. The computer performs a succession of trial-and-error interactions within a dynamic environment to try to determine which approach is best. Topics include:

- A thorough explanation of prescriptive analytics and its business applications
 - Understanding the important difference between data exploration and data exploitation
 - How Q-learning finds the best actions to take to maximize total reward
 - How to implement deep reinforcement learning
 - How to identify decision biases
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Module 7

Prescriptive Analytics: Experimentation

Learn how businesses develop experimentation platforms that enable them to run many tests at high velocity, which in turn allows them to learn, adapt, innovate, and make sound business decisions even in times of uncertainty. Topics include:

- Exploring the power of experimentation
- How to conduct an effective business experiment
- How to implement effective A/B testing
- How to conduct experimentation with AI
- How to establish a culture of experimentation

The Future of Big Data and AI

In the final module, we first discuss some concerns associated with the use of ML in prescriptive analytics and how this might affect our business strategies moving forward. We then discuss data protection and privacy, which will continue to be important considerations in the world of big data. We not only present some best practices associated with data protection, but also outline steps for developing a more general data strategy. Topics include:

- A look at the future of AI
- The ways in which AI will change business strategy
- Exploring the limits and ethical challenges of AI
- Visualizing the future of big data
- Considering the data protection and privacy implications of big data
- Examining the ways that pioneers use big data to stay ahead of the market



Note: This program may include optional reading material that requires a paid subscription.

CAPSTONE PROJECT

The two-month Business Analytics for Leaders: From Data to Decisions program culminates with a capstone project in which you solve a real-world business problem using an AI-centric operating model. You will create a slide deck and present a proposal by applying what you have learned about:

1

Using data sources: You will learn to quickly compartmentalize Big Data into only those elements that are relevant to your specific problem.

2

Devising a data strategy: First you will filter “dirty” data and leave only the “clean” data. Then you will leverage data visualization to determine how to solve the problem using clean data.

3

Choosing an appropriate algorithm: Based on the problem you’re trying to solve, you will determine which ML technique will result in the most effective algorithm, and why.

4

Selecting the right experimentation: You will learn to choose the hypotheses that will best inform your decision-making as well as how you will effectively test them to produce a successful outcome.

CASE STUDIES

To get a clearer understanding of how business analytics actually works in the real world, you will examine several case studies involving these prominent companies:



eBay

Discover how eBay used prescriptive analytics and experimentation to make strategic decisions for feature implementation.



LendingClub

Explore how LendingClub used supervised learning (or predictive analytics) to predict whether borrowers will repay or default on their loans.



Osaro

Explore how Osaro leveraged deep reinforcement learning to enable automation and transform the warehouse market.



Ant Group

Learn how Ant Group built an AI-centric operating model based on analytic approaches to achieve scale, scope, and innovation.

Note: All product and company names are trademarks or registered trademarks of their respective holders. The study of these products and/or companies does not imply any affiliation with or endorsement by them.

PARTICIPANT TESTIMONIALS

The concrete examples provided excellent context to concepts that I've previously understood, but have struggled to find the best ways to focus on, and the best methods in which I can apply them.

— **Craig Price, Senior Software Test Engineer, The Pokémon Company International**

I liked the hands on work and the option to go deeper with the material if you choose. The variety between practice, discussion, live elements, and lectures kept it interesting.

— **Emily Royalty, Financial Specialist, The Boeing Company**

The breadth of content is of great value. I also appreciate the professors' ability to simplify content. A mix of videos, zoom meetings and reading material made the program interesting. The program support team was fantastic and very supportive.

— **Mandeep Bains, Manager, Continuous Improvement, City of Richmond**



PROGRAM FACULTY



Frederico Finan

Professor, UC Berkeley's Department of Economics and Haas School of Business

An expert in applied microeconomics, Prof. Finan teaches graduate courses in data analytics in Haas' Executive MBA Programs. His research uses data analytics to explore the interactions between economic and political forces in developing countries. Typically, this involves working with large datasets and using A/B testing techniques to better incorporate data and empirical evidence into business and policy decision-making.

Prof. Finan has published more than 20 peer-reviewed papers, many in top academic journals such as American Economic Review and the Quarterly Journal of Economics. Other relevant credentials include: Faculty Director of Berkeley's Center for Economics and Politics; Board Member and Fellow of the Bureau for Research and Economic Analysis of Development (BREAD); and Research Associate at the National Bureau of Economic Research. In 2013, Prof. Finan was awarded an Alfred P. Sloan Research Fellowship.

Prof. Finan has given more than 100 invited presentations on data analytics and other research topics, including recent presentations at the University of Chicago, Harvard University, Stanford University, Yale University, and the World Bank.

Prof. Finan received a PhD in Agricultural and Resource Economics from UC Berkeley in 2006. He was an Assistant Professor of Economics at the University of California, Los Angeles and a Visiting Professor at Stanford University's Graduate School of Business before returning to UC Berkeley as a faculty member in 2009.



Demian Pouzo

Associate Professor, Department of Economics, UC Berkeley

A member of UC Berkeley's faculty since 2009, Prof. Pouzo teaches graduate courses in data analytics in Haas' Executive Education Programs. In addition to exploring how individuals make decisions under uncertainty, his research focuses on developing tools for machine learning methods, with an emphasis on uncovering patterns that underlie the data.

Prof. Pouzo has published peer-reviewed papers in journals specializing in economics, finance, statistics, and applied mathematics. He is associate editor for the Journal of Econometrics Methods and Journal of Econometrics. Presentations at the University of Chicago, Harvard University, and MIT are among his more than 100 invited presentations on machine learning and other research topics.

Prof. Pouzo received a PhD in Economics from NYU in 2009, under the supervision of Ricardo Lagos, Xiaohong Chen and Tom Sargent (Nobel Prize in Economics 2011).

GUEST SPEAKERS

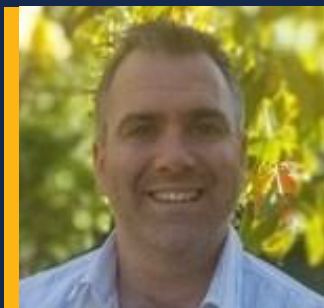
How do you apply the principles of business analytics to the actual decision-making models in your organization? Experienced professionals, including several from top Silicon Valley firms, share their insights from the front lines.



Ruby Zefo

Chief Privacy Officer at Uber

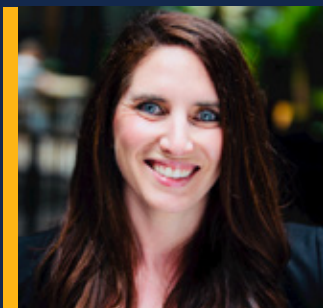
Ruby Zefo serves as Uber's first Chief Privacy Officer and Associate General Counsel, Privacy & Cybersecurity. Her team's mission is to drive Uber's efforts to be a trusted steward of users' personal data in every market where Uber operates. She is also co-chair of the Women at Uber employee resource group. Prior to joining Uber, Ruby was a Vice President at Intel Corporation where she served as Chief Privacy & Security Counsel, Group Counsel for the Artificial Intelligence Products Group, Group Counsel for Intel Security (McAfee), and a variety of other legal roles. Her career history also includes attorney roles at Sun Microsystems and Fenwick & West. Ruby holds a B.S. in Business Administration from the University of California at Berkeley, and a J.D. from Stanford Law School.



Mark Dunning

VP of Analytics, Data Science, and Business Operations at Square

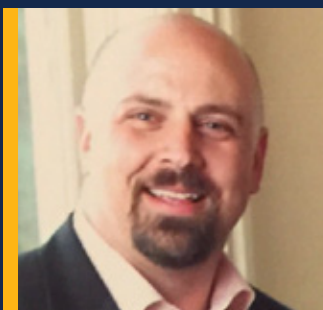
Mark Dunning is the Vice President of Analytics, Data Science, and Business Operations on Square's Ecommerce team. Mark's responsibilities include Data Strategy (including Analytics and Data Science), Business Operations, and Strategic Planning. He partners closely with Product, Growth, Marketing, Finance, Customer Success, Business Development and various teams throughout Square to create successful long-term data strategies. Prior to joining Square, Mark was VP of Analytics at Weebly, VP of Data & Analytics at Smule Inc, and Senior Director of Global Analytics and Data Quality at Ancestry.



Joanne Marrache

VP of Business Intelligence & Analytics at Deutsch

Joanne Marrache is the Vice President of Business Intelligence & Analytics at Deutsch. She leads Deutsch's Marketing Science practice to advise agencies and clients, such as Walmart, Taco Bell and Hulu, on data-driven media and business strategy. Prior to joining Deutsch, Joanne led Strategic Analytics teams at Publicis agencies, and previously led finance and analytics endeavors at Mattel, Target and Kaplan. Joanne has an M.B.A. from Duke University Fuqua School of Business.



Schyler Thiessen

Senior VP of Enterprise Risk Intelligence at Bank of the West

Schyler Thiessen joined Bank of the West in 2008, and now serves as the Senior Vice President - Head of Enterprise Risk Intelligence, where he oversees the development, communication, and integration of new analytics, quantitative models, risk identification tools and strategies. Prior to joining Bank of the West, Schyler was the Executive Vice President at Bank of America. Schyler received a Master's Degree in Financial Engineering from the University of California at Berkeley, Haas School of Business.

CERTIFICATE

Get recognized! Upon successful completion of the program, UC Berkeley Executive Education grants a verified digital certificate of completion to participants. Participants must complete 80 percent of the required activities including a capstone project (if any) to obtain the certificate of completion. This program also counts toward a Certificate of Business Excellence.



Note: This program results in a digital certificate of completion and is not eligible for degree credit/CEUs. After successful completion of the program, your verified digital certificate will be emailed to you in the name you used when registering for the program. All certificate images are for illustrative purposes only and may be subject to change at the discretion of UC Berkeley Executive Education.



This program counts toward a
Certificate of Business Excellence

CURRICULUM DAYS

Two Days

PILLAR(S)

Entrepreneurship & Innovation or Strategy & Management

A UC Berkeley Certificate of Business Excellence gives individuals the opportunity to create a personal plan of study structured by our four academic pillars. Participants will earn a mark of distinction with certification from a world-class university, and enjoy the flexibility of completing the program in up to three years.

LEARN MORE

PATH TO ALUMNI BENEFITS

Enrolling in the **Business Analytics for Leaders: From Data to Decisions** program can become your first step toward pursuing the UC Berkeley Executive Education **Certificate of Business Excellence (COBE)**. The Certificate of Business Excellence gives individuals the opportunity to acquire and hone new skills and do it on a timeline that works with your busy schedule. Participants will earn a mark of distinction with certification from a world-class university, and enjoy the flexibility of completing the program in up to three years. Learn more about the program and associated alumni benefits [here](#)

Keeping it interesting

- Join local alumni chapters or clubs in your region.
- Participate in the annual Berkeley Haas Alumni Conference.
- Attend select Berkeley Haas and Berkeley Executive Education Networking events open to the COBE community.

Berkeley exclusive resources

- 15% discount on the list price of future eligible Berkeley Executive Education programs.
- Activate an @haas.executivealumni.berkeley.edu email forwarding address.
- 30% discount on the list price of future eligible programs after completion of your Certificate of Business Excellence.
- Public visitor access to select campus libraries and university database services.

News and communication

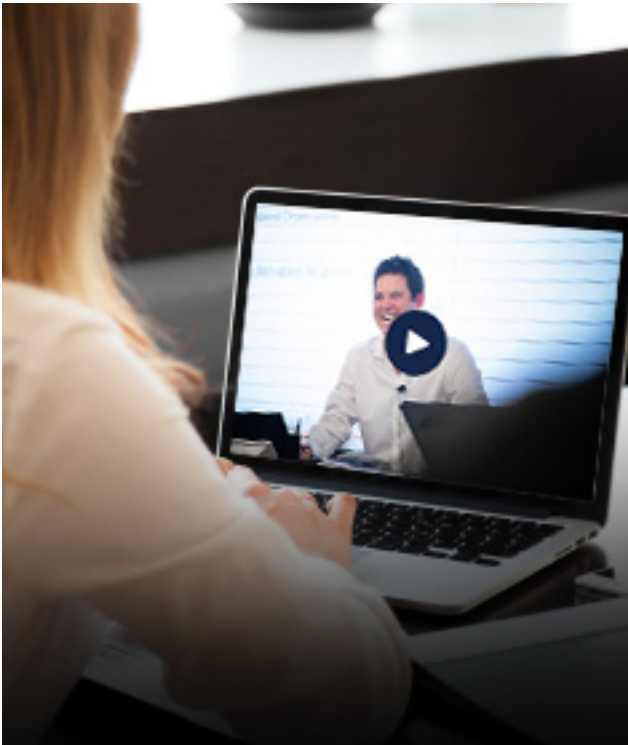
- A one-year complimentary digital subscription to *California Management Review*.
- Berkeley Haas Alumni newsletter.
- Berkeley Haas Alumni Jobs e-newsletter featuring job postings from distinguished employers.
- Haas Insights offering the latest research and thought leadership from industry speakers and faculty.

Successful completion of this program fulfills two curriculum days (minimum requirement of 17 curriculum days) toward the UC Berkeley Certificate of Business Excellence (COBE). Learn more on how it works [here](#).

Note: All benefits subject to change.

[Learn More](#)

THE LEARNING EXPERIENCE



Keeping it Convenient

Access to program content is flexible and available through multiple devices, allowing working professionals to easily manage schedules and learn remotely—anytime, anywhere. Participants enrolled in the program obtain access to learning materials in a modular approach, with new content released weekly. Program modules include a variety of teaching instruments, such as:



Video lectures



Discussions



Class materials:
articles, cases



Knowledge
Checks



Surveys



Assignments

Our programs are designed to meet the needs of individual learning styles, while also leveraging the power of peer learning. This is achieved through a user-friendly learning platform that enables participants to easily navigate the program content to achieve learning objectives.

Keeping it Real

Our pedagogical approach is designed to bring concepts to life, including:

- Byte-sized learning techniques
- Real world application
- Peer learning discussions
- Live, interactive teaching

To further personalize the program modules, live teaching sessions are scheduled during the program, often with Q&A. For participants who are unable to attend these live sessions, a recording is made available so nothing is missed. Our industry-leading learning platform allows participants to create a profile, connect and collaborate with peers, and interact with academic/industry experts such as program leaders and teaching assistants. Assignments are often linked to participants' real-world situations, making concepts inherently practical.

Keeping it Interesting

Our globally connected classrooms enable participants to seamlessly interact with their peers to complete group assignments and stay on track toward program completion—with culturally-enriching encounters along the way.

Program Requirements

To access our programs, participants will need the following:

- Valid email address
- Computing device connected to the internet: PC/laptop, tablet, or smart phone
- The latest version of their preferred browser to access our learning platform assignments

- Microsoft Office and PDF viewer to access content such as documents, spreadsheets, presentations, PDF files, and transcripts

Other Requirements

Programs may necessitate the usage of various software, tools, and applications. Participants will be informed about these additional requirements at the registration stage or when the program begins. Our program advisors are also available to respond to any queries about these requirements.



ABOUT UNIVERSITY OF CALIFORNIA, BERKELEY

The University of California, Berkeley is a public research university in Berkeley, California. Founded in 1868, UC Berkeley serves as the flagship of the 10 University of California campuses. Since its founding, UC Berkeley has grown to instruct over 40,000 students per year in approximately 350 undergraduate and graduate degree programs, covering numerous disciplines on campus and online.

UC Berkeley ranks #1 public university by U.S. News & World Report.

BY THE NUMBERS



107 Nobel laureates



25 Turing Award winners



14 Fields Medalists



19 Wolf Prizes



45 MacArthur Fellowships



20 Academy Awards



19 Pulitzer Prizes



207 Olympic medals

ABOUT UC BERKELEY EXECUTIVE EDUCATION

UC Berkeley Executive Education offers a portfolio of online and in-person programs developed by the most forward-thinking minds in academia and industry to accelerate the careers of professionals around the globe. Here, executives have abundant resources at their fingertips, from award-winning faculty and national laboratory research to the vibrant ecosystem of Silicon Valley. These tools, engaged in one of the most dynamic learning environments in the world, combine to create a powerful experience for business executives seeking a competitive edge.

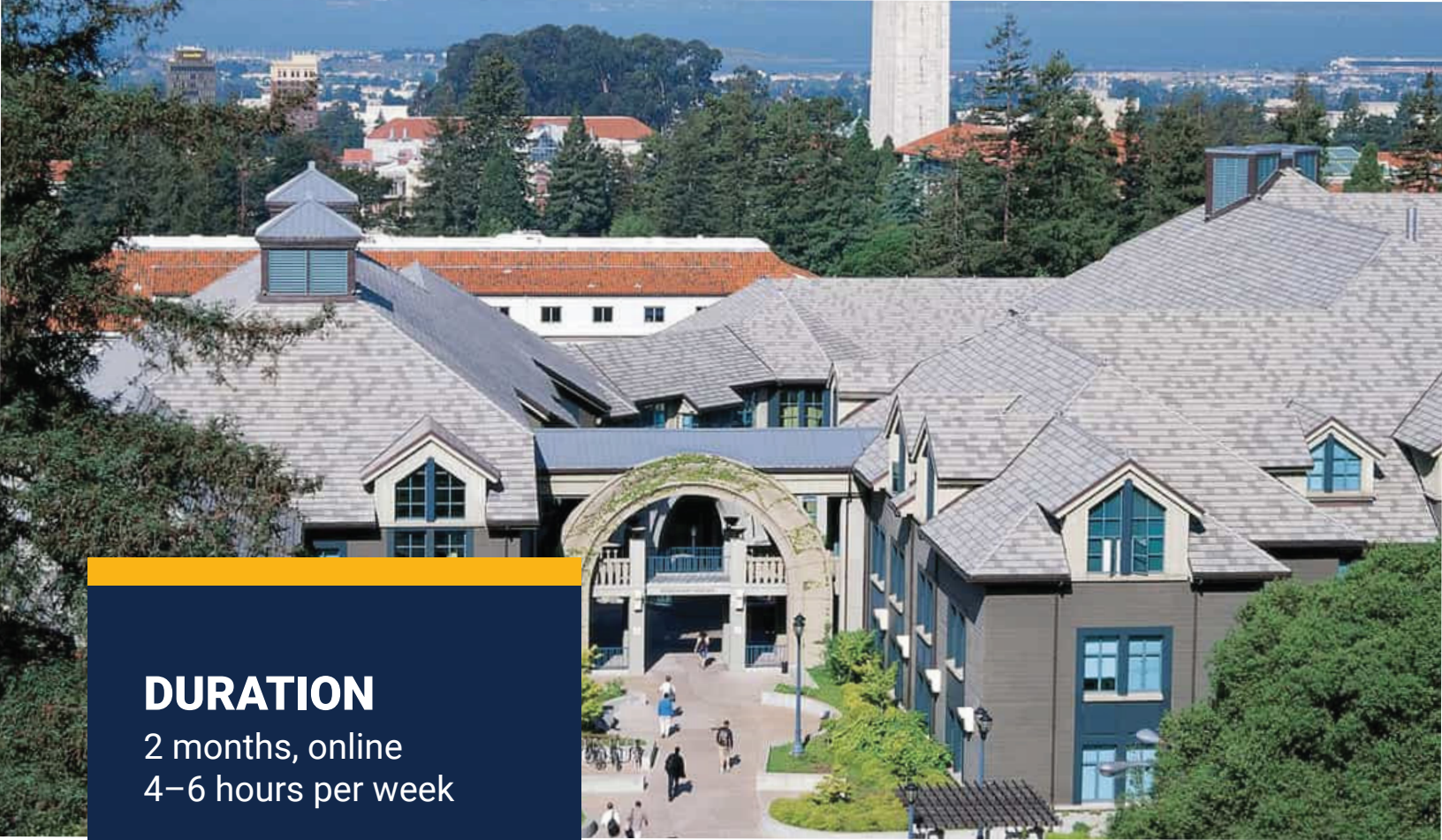
ABOUT THE HAAS SCHOOL OF BUSINESS

As the second oldest business school in the United States, the Haas School of Business at the University of California, Berkeley has been questioning the status quo since its founding in 1898.

Berkeley Haas is a leading producer of new ideas and knowledge in all areas of business, inspiring new thinking for the new economy. We invite you to learn more about Haas, our exceptional faculty members—including two Nobel Prize laureates in Economics—and our community of dedicated students and alumni. Our mission is to help extraordinary people achieve great things. At Haas, we live our distinctive culture out loud by embracing our four defining leadership principles: question the status quo, confidence without attitude, students always, and beyond yourself.

Each year, nearly 5,000 undergraduate and graduate students as well as Executive Education participants from around the world learn on our campus and online. They join a network of over 41,000 graduates eager to help each other grow and thrive in their professional lives.





DURATION

2 months, online
4–6 hours per week

PROGRAM FEES

\$2,600

ABOUT EMERITUS

UC Berkeley Executive Education is collaborating with online education provider Emeritus to offer a portfolio of high-impact online programs. These programs leverage UC Berkeley Executive Education's thought leadership in management practice, developed over years of research, teaching, and practice. By working with Emeritus, we are able to broaden access beyond our on-campus offerings in a collaborative and engaging format that stays true to the quality of the University of California, Berkeley. Emeritus' approach to learning is based on a cohort-oriented design to maximize peer-to-peer sharing and includes live teaching with world-class faculty as well as hands-on project-based learning. In the last year, more than 100,000 students from over 80 countries have benefitted professionally from Emeritus programs.



Schedule a call with a program advisor
to learn how this program can help you:

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Apply for the program here:

Apply Now

Refer your colleague
and receive a benefit:

Refer Now

✉ Email: berkeley@emeritus.org

☎ Phone: +1 510-822-8883 (U.S.)

