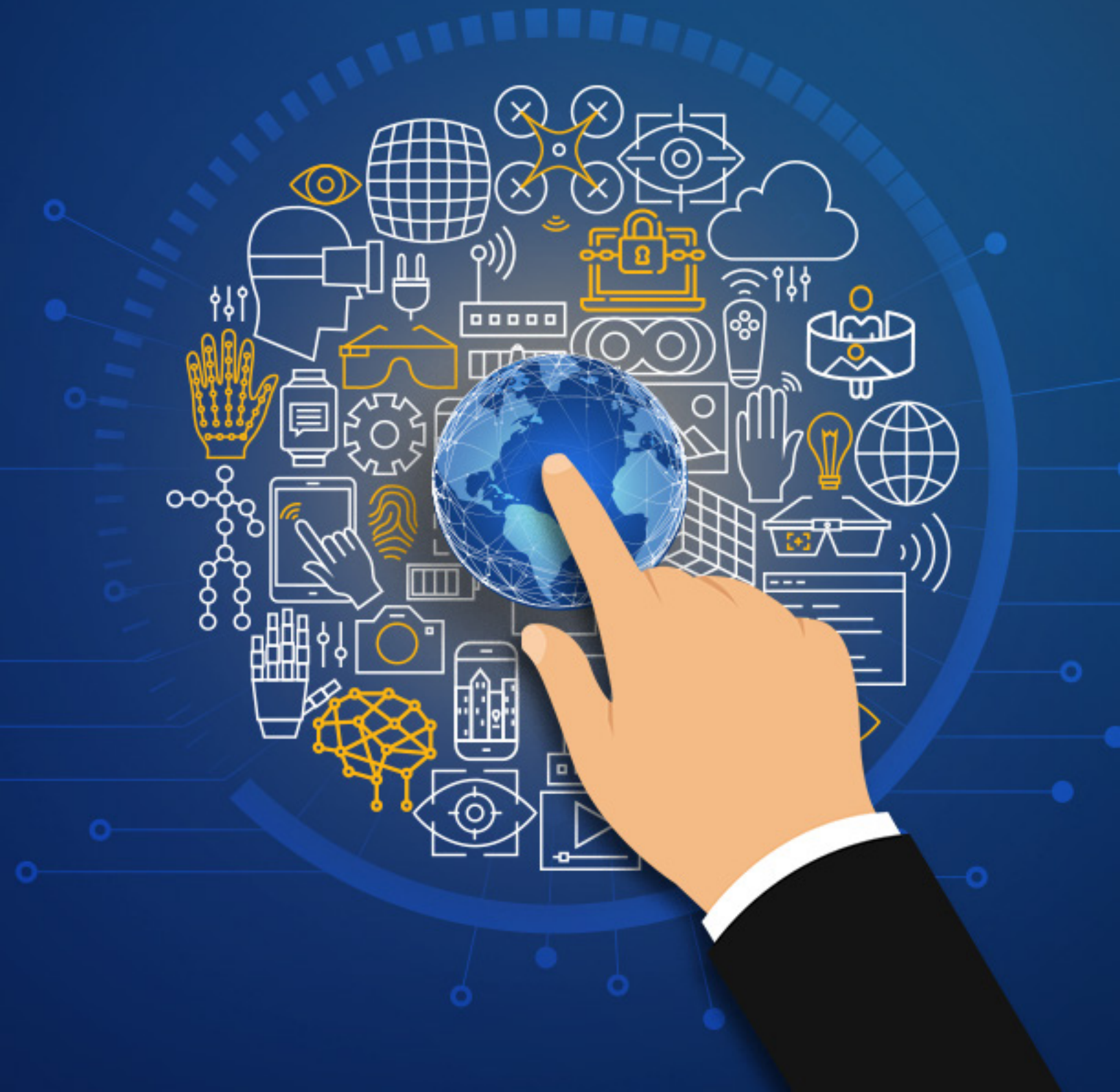
Berkeley ExecEd | Berkeley Haas

FUTURE OF TECHNOLOGY: TRENDS, STRATEGIES, AND INNOVATION OPPORTUNITIES



OVERVIEW

If you find the breathtaking pace of disruption disorienting, you're not alone. A PwC survey revealed that 76% of CEOs worry about the speed of technological change. What if there was a way to turn the unknown into opportunities, and identify areas for growth?

The Future of Technology: Trends, Strategies, and Innovation Opportunities program from UC Berkeley Executive Education provides a framework not only for assessing key disruptive technology trends, but also for creating a roadmap to implement innovation strategies. It has been designed to examine specific aspects of emerging tech, such as AI, IoE, Robotics, Quantum Computing, Cybersecurity, and Blockchain, while offering tools and frameworks for conceiving and assessing tech-driven futures.

This program will help you see how the various technology sectors can work together—with no specialized knowledge of coding or mathematics required. Through live sessions with faculty, expert guest speakers, and real-world examples and cases featuring prominent companies, this program helps you leverage disruptive tech insights to drive innovation strategies and gain competitive advantages.

The Future of Technology: Trends, Strategies, and Innovation Opportunities program culminates with a capstone project where participants generate disruption foresight on strategic implications, and create a portfolio strategy of emerging technologies using a proprietary framework. Future-proof your business by joining the Future of Technology: Trends, Strategies, and Innovation Opportunities program from UC Berkeley Executive Education.

WHO IS THIS PROGRAM FOR?

This program is for technology and business leaders looking to capture tech-driven opportunities that create competitive advantage, and is particularly beneficial for:

- **Technology leaders** who want to make a case for their organizations to invest in emerging technologies and create a roadmap for navigating digital transformation. Representative roles include:
  - **Chief Technology Officer**
  - **Chief Information Officer**
  - **Chief Information Security Officer**
  - **Director of Technology**
  - **Director of Information Systems**
  - **VP of Technology**
  - **IT Director**
  - **Director of Engineering**
  - **Tech Lead**
  - **IT Project Manager**
  - **Engineering Manager**
  - **Tech Manager**
  - **IT Manager**
  - **Systems Manager**

- **Senior business leaders** who want to grow their organizations through innovation and leverage the opportunities that new technologies present. Representative roles include:
  - **Chief Executive Officer**
  - **Chief Operating Officer**
  - **Chief Financial Officer**
  - **Chief Marketing Officer**
  - **Chief Product Officer**
  - **VP of Marketing**
  - **VP of Business Development**
  - **Director of Strategic Partnerships**
  - **VP of Product Development**
  - **Executive Director**
  - **Managing Director**

- **Mid-level functional managers** who would like to explore the various applications of new technologies and understand their impact in their functional areas. Representative roles include:

  - **Operations Manager**
  - **Product Manager**
  - **Analytics Manager**
  - **Marketing Manager**
  - **Project Manager**
  - **Supply Chain Manager**
  - **Business Development Manager**
  - **Finance Manager**
  - **Business and Strategy Manager**

- **Consultants** who want to keep pace with disruptive technologies and discover new applications across industries while mitigating risks and instilling resilience. Representative roles include:

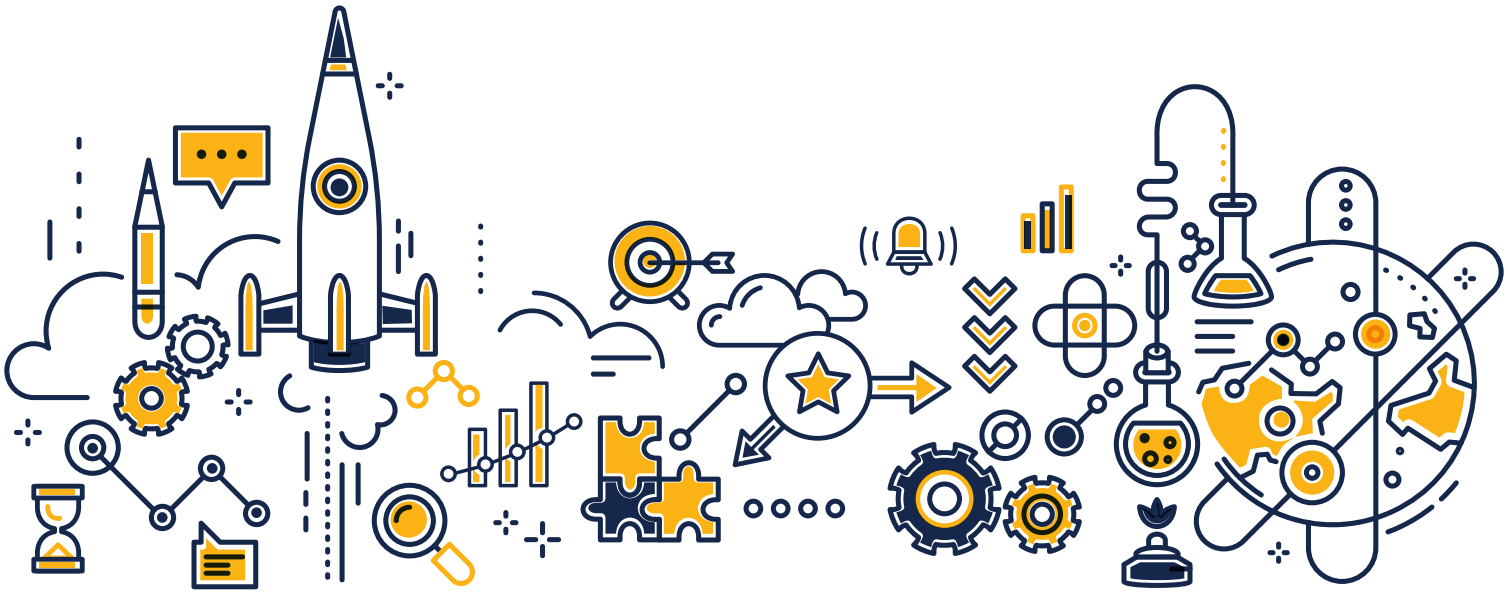
  - **Consultant**
  - **Senior Consultant**
  - **Principal Consultant**
  - **IT Consultant**
  - **Digital Transformation Consultant**
  - **Technology Consultant**

- **Entrepreneurs and business professionals** looking to develop businesses around emerging technologies by identifying untapped potential.

KEY TAKEAWAYS

Completing this program will empower you to:

- Explore trends, insights, and implications of key disruptive technologies
- Apply foresight tools and frameworks to evaluate opportunities in tech-driven futures
- Build resilience in your organization amid technology disruption
- Leverage disruptive tech insights to drive innovation strategy
- Create a technology portfolio to gain competitive advantages in your industry



PROGRAM EXPERIENCE

Videos

Live teaching sessions

Notable guest speakers

Live office hours

Try-it activities

Crowd-sourced activities

Discussions

Peer reviews

Real-world examples

Knowledge checks

Polls

Business assignments

Reflections

Capstone

LIVE NETWORKING OPPORTUNITY
HAPPY HOUR

The program includes two live happy hours, where you can interact with other participants and build your professional network! This is an opportunity to share personal backgrounds and thoughts on guided questions in an informal and fun way.

PROGRAM MODULES

The two-month Future of Technology: Trends, Strategies, and Innovation Opportunities program will provide both the foundation and the framework you need to successfully navigate the fourth industrial revolution. There are four live “deep dive” sessions with Berkeley Haas faculty, and after each module you will apply the emerging trends and strategic considerations of each technology to your own organization.

Module 1

Introduction to Tech Futures

One of the most challenging aspects of navigating the future of technology is trying to harness opportunities amid the rush of constant change. Get a solid starting point with this comprehensive overview. Topics include:

- Understanding what the fourth industrial revolution involves and how technologies emerge
- Discerning how to gain a competitive advantage in tech-driven futures
- Use Gartner's Hype-Cycle, the S-curve, and a variety of other frameworks to understand where a technology is in its renewal and disruption cycle.
- Conducting a high-level flyover of technology domains and opportunities
- Using FLP-IT model to assess future-oriented tech scenarios

Module 2

Artificial Intelligence and Data Science

The future of technology will largely be enabled by AI. This module will get you up to speed on the current and future capabilities of artificial intelligence and machine learning, deep learning, and data science. Learn the key actors in the space and how your business should incorporate AI and big data into strategic considerations. Topics include:

- Ensuring organizational AI readiness
- Enhancing different parts of your business' value chain with cognitive tech
- Deciding whether to build AI internally or source it from other providers
- Leveraging AI to enable data-driven decisions and a data-driven culture
- Creating the right talent base for AI

Module 3

Compute Power

As the backbone of digital, compute power is the key to the future. Learn about real-world applications of edge computing, neuromorphic computing, and quantum computing, including autonomous vehicles and information security. Prepare for challenges such as politicized supply chains and energy consumption of data centers. Topics include:

- Innovating in the computing power technology
- Understanding the global supply chains of the semi-conductor industry
- Creating the hardware platform for your industry's cognitive revolution
- Building energy efficient infrastructures to generate critical cost and branding advantages
- Striking alliances with key actors in compute power to build resilience in your business

Module 4

Internet of Everything

The Internet of Everything (IoE) enables objects, data, processes, and people to operate in concert in the emerging "cognitive era." Get the big picture of how the IoE is changing communications between people and machines, and how that impacts industries such as transport and logistics. Also, learn about new opportunities involving virtual reality (VR) and augmented reality (AR). Topics include:

- Applying the nodal network advantage to your business using five nodal forces
- Using edge security to safeguard data, value, and trust
- Creating nodal maps and an ecosystem of partners
- Taking a human-centric approach to managing data and creating value

Module 5

Robotics and Automation

Take a deep dive into which tasks are automatable today and what the future may hold. This overview includes a look at the capabilities and applications of robotics, such as warehouse robots, domestic robots, and medical robots. Learn colliding trends and strategic considerations of robotics and automation for your business. Topics include:

- Creating transformations in various industries through the convergence of VR, AR, and Robotics
- Reimagining the future of work by considering new skills and business models needed for the future
- Broadening value creation through “symbio-intelligence” between humans and machines
- Assessing different financing models for the robot and automation revolution

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Module 6

Cybersecurity

Get a foundational understanding of the taxonomy of cyber incidents and cyberthreats. In addition, meet key actors in cybersecurity, including seven types of hackers, the cybersecurity strategists, CISO allies, and government entities trying to stop them. Finally, learn to identify and prevent ongoing threats, such as the triangulation of your employees’ data footprint and the challenges of deepfakes. Topics include:

- Avoiding cyber attacks by understanding the cyber kill chain
- Creating your own incident response plan
- Implementing the five steps to prevent data breaches through ZeroTrust
- Ensuring data privacy and security using four emerging encryption technologies
- Rethinking cybersecurity using ecosystem and bodyguard approaches that puts the focus on users

Module 7

Fintech and Blockchain

Get an overview of Fintech Revolution 2.0, how it is different from Fintech Revolution 1.0 and why that matters. Learn the real-world applications of recent innovations in the financial sector, including stablecoins, micro-payments, decentralized finance, and crypto lending platforms. Topics include:

- Unbundling, democratizing, and rebundling financial services
- Assessing the FinTech 2.0 revolution around the blockchain
- Adapting to the changing role of corporate finance
- Using sandboxes to regulate Fintech without stifling innovation
- Tokenizing your business operations using blockchain

Module 8

Portfolio Strategy

It all comes together in this module where you not only learn why strategic foresight is important, but also how to develop it using the proprietary FLP-IT framework. You will start thinking of technology in four stages, that help align your tech investments with your opportunity horizons for a more forward-leaning innovation portfolio. Topics include:

- Defining your portfolio strategy using strategic foresight
- Identifying markets and risks using the Innovation Portfolio Matrix
- Considering five leadership tactics for building tech innovation portfolios
- Taking three steps for implementing innovation portfolio strategy

CAPSTONE PROJECT

The program culminates with you applying the FLP-IT model to map a strategy for leveraging emerging technologies. FLP-IT, a proprietary framework from Berkeley Haas, helps assess future-oriented tech scenarios and harness opportunities amid disruption. It includes the following elements:

STEP 01

Forces: You will select some dominant tech forces discussed during the program that have high impact, high uncertainty, and high relevance to your field and industry.

STEP 02

Logic: You will "collide" the tech forces identified above with other STEEPLE (social, technological, economic, environmental, political, legal, and ethical) forces and determine whether any new or altered competitive logic arises.

STEP 03

Phenomena: A change in competitive logic will create new phenomena. In this step, you will identify phenomena and patterns that will shape how different futures might unfold.

STEP 04

Impact: Next, you will diagnose the impact and implications of those new phenomena on your business and ecosystem, and identify opportunity spaces you can innovate in.

STEP 05

Triage: In this prioritization exercise, you will outline any new opportunities you can capitalize on and create an upgraded technology portfolio for your business.

REAL-WORLD EXAMPLES

To ground your understanding of technology disruption and digital transformation in a business context, the program presents real-world examples and cases of prominent companies:

Baidu

Learn how this China-based tech giant and search engine seeks to disrupt the auto industry with a distinct strategy via Apollo, an open innovation, multisided platform with network effects for autonomous vehicles.

Qualcomm

Understand how the multinational corporation gained and maintained dominance in the semiconductor industry.

Tesla

Discover how the company navigated the S-curve's three phases, leading to a greater adoption of electric vehicles.

Trumpf

Explore how the German industrial machine manufacturing company innovated its business and financial models to instill resilience.

PROGRAM FACULTY

Olaf Groth

Professional Faculty Member, UC Berkeley Haas School of Business

An esteemed faculty member for strategy, technology management and futures at UC Berkeley's Haas School of Business, Prof. Groth is also a Professor of Practice in global strategy, innovation & economics, digital & disruption futures at Hult International Business School. He teaches across the globe in the US, Europe, China, the UAE, and Africa.

Prof. Groth is an internationally renowned executive at and advisor with innovation- and technology-focused multinationals, startups, consultancies, and government agencies, like Boeing, Qualcomm, Vodafone, Bosch Foundation, and the UAE State Ministry for AI, where he has helped qualify, launch and grow new programs and ventures. He is the Founder and CEO of Cambrian Futures and Cambrian Designs; a member of the Global Expert Network for the 4th Industrial Revolution at the World Economic Forum; and a Visiting Scholar at UC Berkeley's Roundtable on the International Economy and its program, Work in the Era of Intelligent Tools and Systems.

Dr. Groth is the co-author of the 2018 book *Solomon's Code: Humanity in a World of Thinking Machines* and its paperback version *The AI Generation: Shaping Our Future with Thinking Machines*, as well as the forthcoming MIT Press book *The Great Remobilization: Shaping A Smarter World*. He is a frequent contributor to a variety of well-known media outlets, including *Wired*, *The Financial Times*, *The Hill*, and *Harvard Business Review California Management Review, NPR,* and *Deutsche Welle*. He holds a PhD and an MA with international business, economics, and technology management focus from Tufts University's Fletcher School. He also has an MA and a BA in International Policy Studies with economics focus from Middlebury Institute of International Studies at Monterey. In addition, he studied negotiation at Harvard, trade economics at Georgetown, finance at UC Berkeley, and strategic leadership at the Center for Creative Leadership.

Tobias Straube

Research Co-Lead, UC Berkeley and Haas School of Business
Associate Partner for Analysis at Cambrian Futures

Straube has co-led the research foundation for this course with Dr. Groth. He has a background as a venture developer, startup entrepreneur, and consultant with 10 years of professional experience in AI, FinTech, and consulting in the private and public sectors.

At Cambrian, a Berkeley-based deep tech product and strategy design lab, Straube is the VP of Operations & Analysis. In this role, he has designed privacy computing solutions and data marketplaces and implemented several international education and research projects around the cognitive economy. The World Economic Forum's Center for the Fourth Industrial Revolution recently recognized his contribution to their national AI strategy framework. In 2020, he was also a member of a World Economic Forum working group on Responsible Use of Technology. He is also a board member at Digital Waves, a Swiss-based financial intermediary that makes innovative and digital assets bankable and leads an advisory network in the area of international economic cooperation. His work has been published in WIRED, California Management Review, ZeitOnline, Handelsblatt, and the European Business Review.

Straube has lived and worked across Europe, Africa, Latin America, and Asia. He holds an Executive MBA from Hult International Business School and a Bachelor of Arts from the University of Applied Science in Bremen.

GUEST SPEAKERS

Guiding you through the Future of Technology: Trends, Strategies, and Innovation Opportunities program, and sharing their insights as well as expertise will be an array of speakers from business and academics.

Kathy Baxter

Principal Architect of AI Practice, Salesforce

Informed by her experiences at Google, eBay, and Oracle, Kathy Baxter develops research-informed best practice to educate Salesforce employees, customers, and the industry on the development of responsible AI.

Alison Darcy

Founder and President, Woebot

A psychologist and technologist, Alison Darcy is dedicated to using AI to make mental healthcare solutions smart, scalable, and accessible.

Ken Goldberg

Professor, UC Berkeley

A Professor of Industrial Engineering and Operations Research, Ken Goldberg holds 10 U.S. patents and has co-authored more then 300 peer-reviewed technical papers on algorithms for robotics, automation, and social information filtering.

Bryan Johnson

Founder and CEO, Kernel

Having personally invested $54 million in Kernel and its revolutionary brain interfaces, Bryan Johnson is committed to ushering in a new era for neuroscience, psychiatry, and cognitive wellness.

Thomas Kalil

Chief Innovation Officer, Schmidt Futures

A former Deputy Director for Technology and Innovation at the White House under President Obama and President Clinton, Thomas Kalil leads initiatives to harness technology for societal challenges, improve science policy, and identify and pursue 21st century moonshots.

Cecilia Marinier

Cybersecurity Advisor, RSA Conference

As leader of RSA Conference's Innovation and Education efforts, Cecilia Marinier evangelizes cutting-edge technologies and best hands-on practices for the field.

Debbie Taylor Moore

Senior Partner of Cybersecurity at Global Business Services, IBM

A leading cybersecurity strategist and technology leader, Debbie Taylor Moore has implemented cybersecurity growth strategies at top security companies, and served global clients in 22 countries and across four continents.

Geoffrey Moore

Globally Renowned Author of *Crossing the Chasm* and *Zone to Win*

A best-selling author and a top innovation keynote speaker and advisor, Geoffrey Moore's work focuses on the market dynamics surrounding disruptive innovations. His most recent book, *Zone to Win*, addresses the challenge large enterprises face when embracing disruptive innovations.

Orlagh Neary

Senior Director, Microsoft AI

As head of the Microsoft AI and Innovation Go-to-market team, Orlagh Neary specializes in energizing business and technical audiences at scale through storytelling, events, social and digital campaigns, and web experiences.

Thomas Neubert

Senior Director, Strategic Business Development and Innovation, Intel

An expert in mobile telecommunications, wearable devices, IP real-time collaboration, and 3D graphics, Thomas Neubert builds new, transformative lines of business as potential new revenue sources.

M.K. Palmore

Vice President and Field Chief Security Officer, Palo Alto Networks

Keynote speaker, cybersecurity evangelist, and risk consultant Malcolm K. Palmore is a retired FBI Assistant Special Agent in Charge whose focus is emerging threats and digital transformation.

Amit Pradhan

Founder and President, Silicon Valley Blockchain Society

A seasoned startup founder, investor, and speaker, Amit Pradhan is focused on using exponential tech to move humanity forward.

Peter Schwartz

Senior Vice President of Strategic Planning, Salesforce

One of the earliest adopters of the ARPANET, Peter Schwartz has written seven books, including *When Good Companies Do Bad Things*, and was selected for the Futurist Hall of Fame.

Chenyang Xu

Cofounding Partner, Silicon Valley Future Academy

A recognized leader and speaker in open innovation, corporate start-up partnership, and computer vision, Chenyang Xu is the Managing Partner of Perception Medical Technologies, VP and Chief AI Technology Advisor at the US-Asia Innovation Gateway and a Partner at the Corporate Innovators Huddle.

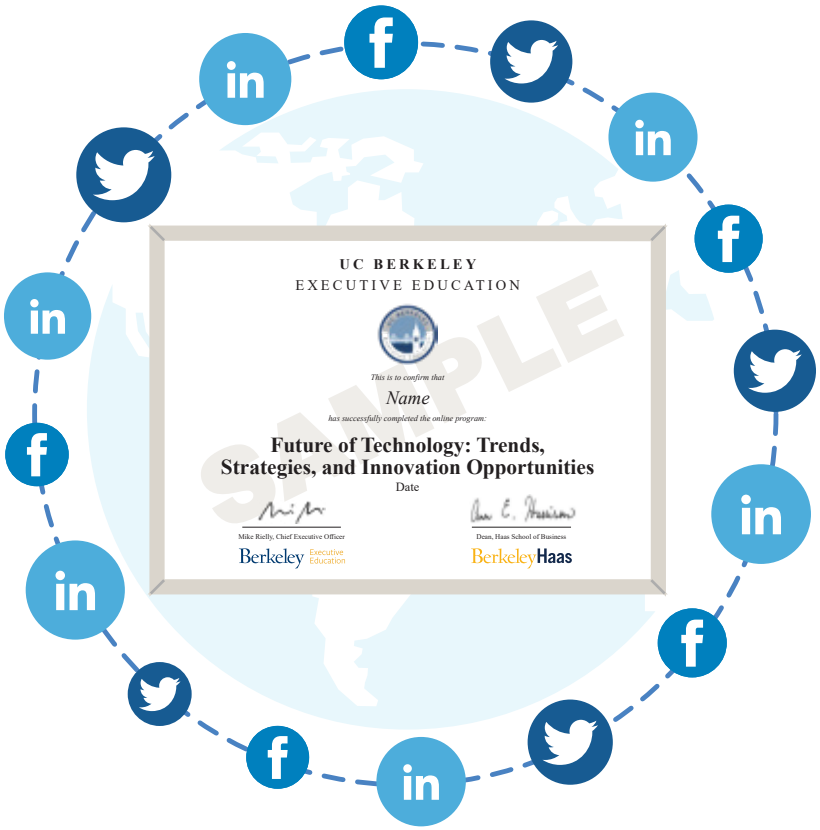
Niv Zilberman

General Manager at Business Innovation Office, Intel

An entrepreneurial-focused leader with a history of conceptualizing ideas that transform businesses, Niv Zilberman introduces startup operating inside large organizations. He develops next generation data-centric businesses in key transformation areas.

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 / 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

THE LEARNING EXPERIENCE

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

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

Quizzes

Surveys

Assignments

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.

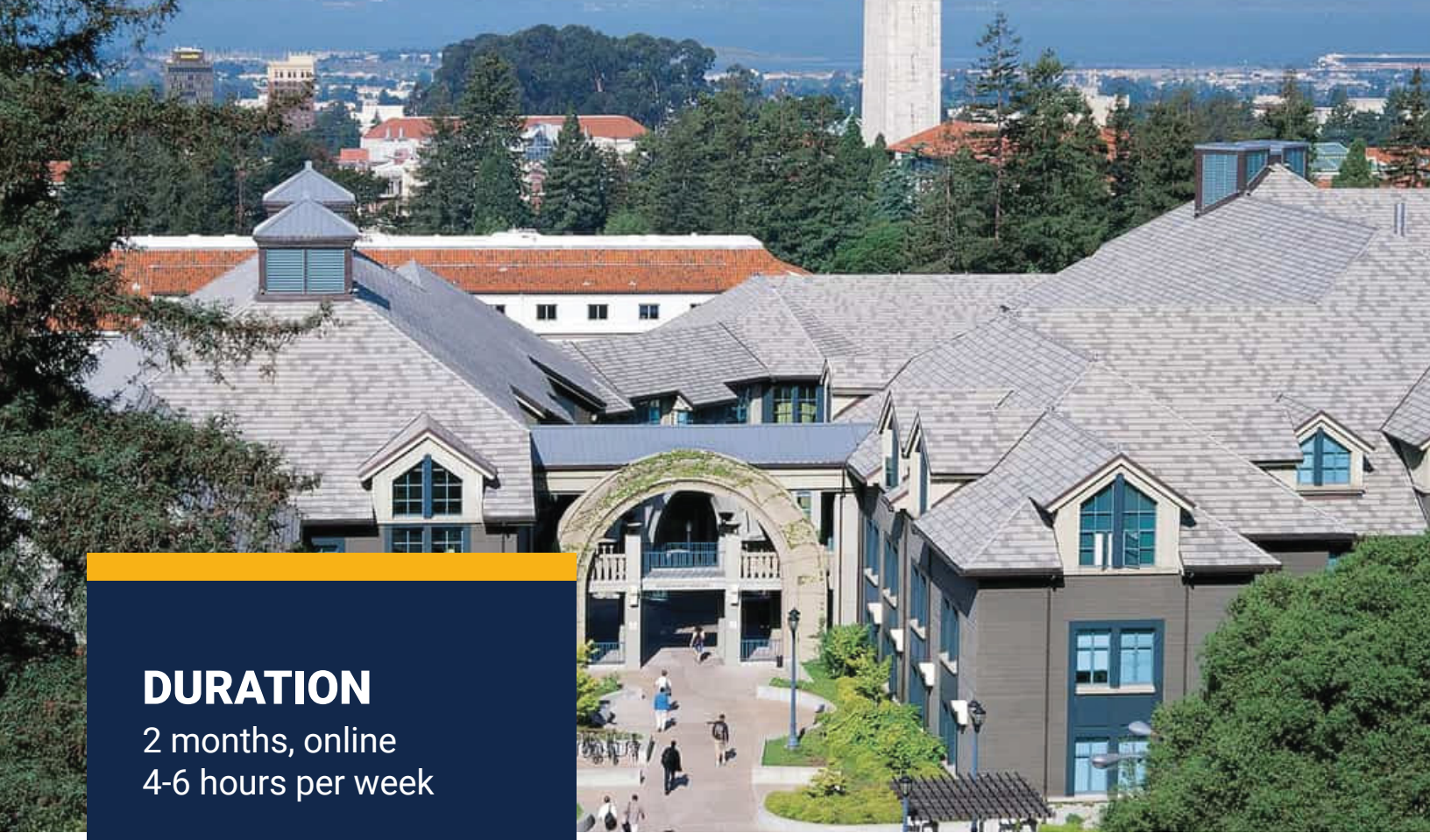
Program Requirements

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.



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-based design to maximize peer-to-peer sharing and includes live teaching with world-class faculty and hands-on project-based learning. In the last year, more than 100,000 students from over 80 countries have benefitted professionally from Emeritus courses.

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