

MIT SLOAN SCHOOL OF MANAGEMENT
MIT COMPUTER SCIENCE AND ARTIFICIAL INTELLIGENCE LABORATORY (CSAIL)

MACHINE LEARNING: IMPLEMENTATION IN BUSINESS

ONLINE SHORT COURSE

Incorporate machine learning into your business, and explore
the impact and value of this transformative technology.

Certificate Track: Management and Leadership

ABOUT THIS COURSE

How will machine learning affect your business? How can your company capitalize on this dynamic technology? This six-week online program from the MIT Sloan School of Management and the MIT Computer Science and Artificial Intelligence Laboratory (CSAIL) will help you to answer these questions. Machine learning, a branch of artificial intelligence, is the science of programming computers to improve their performance by learning from data. Dramatic progress has been made in the last decade, driving machine learning into the spotlight of conversations surrounding disruptive technology. This executive online program aims to demystify machine learning for the business professional – offering you a firm, foundational understanding of the advantages, limitations, and scope of machine learning from a management perspective.

MIT Faculty will guide you to understand the current and future capabilities of this transformative technology, in order to effectively unlock its potential within business. You'll also have the opportunity to design a roadmap for the successful integration of machine learning – tailored for your own organization. At the end of the course, you'll walk away with a plan for immediate and practical business action.

WHAT THE PROGRAM COVERS

This program views the technical elements of machine learning through the lens of business and management, and equips you with the relevant knowledge to discover opportunities to drive innovation and efficiency in your organization. Although you can expect to explore technical aspects of machine learning, the focus is on empowering you, as a business leader, to ask the right questions about whether machine learning applications will benefit a particular business problem, or make your organization more efficient.

Through a mix of research insights reinforced by case examples, you'll have the opportunity to critically apply your learning. You'll learn to identify the realistic opportunities of this transformative technology as you develop an implementation plan for machine learning in a business of your choice. Whether you work in a strategic, operational, or managerial function, you'll be equipped with an understanding of how machine learning can impact your organization's business objectives, as well as knowledge of the key aspects of related implementation strategies. Over the course of

six weeks, you'll learn how to successfully lead teams tasked with executing technical machine learning projects, and strategically leverage machine learning for a powerful competitive edge in business.



\$3,200



6 weeks,
excluding orientation



6–8 hours/week of self-paced
learning, entirely online*

**The recommended weekly time commitment for core content is 3-5 hours, taking into account the busy lifestyles of working professionals, with an additional 2-3 hours recommended for non-compulsory weekly extension activities, should you have the time.*

THIS PROGRAM IS FOR YOU IF:



You want to gain a sound **understanding of the current and future capabilities of machine learning**, and how to leverage it in a business context.



You're interested in **successfully integrating machine learning technology** into an organization, with a **strategic action plan**.



You're seeking recognition of your knowledge in the form of a **certificate of completion** from the MIT Sloan School of Management.**

** Certificates of completion are issued in your legal name upon successfully completing a program according to the program completion criteria outlined during the program. No certificate will be issued to you if you do not meet the stipulated requirements for the award of a certificate.

WHO SHOULD TAKE THIS COURSE?

This online program is for business leaders, mid to senior managers, data specialists, consultants, and business professionals interested in exploring the strategic implications of integrating machine learning into an organization.

Whether you're interested in upskilling or are seeking an understanding of transformative technologies in the business environment, this program will assist you in identifying business areas that could benefit from the strategic application of machine learning. If you've been tasked with managing a team or project with roots in machine learning, or you're interested in using knowledge of technical innovation to find a competitive edge in the market, the skills you'll develop will help you realize your potential.



“At MIT Sloan Executive Education, we are focused on bridging the energy, engagement, and idea flow of physical in-person teaching and learning into online experiences. We aim to positively modify individual and collective behaviors that participants will take back to their teams and propagate throughout their organizations.”

– PAUL MCDONAGH-SMITH, DIGITAL CAPABILITY LEADER, MIT SLOAN EXECUTIVE EDUCATION

WHAT YOU WILL LEARN

This online program integrates rich, interactive media such as videos, infographics, and e-learning activities as well as traditional didactic components such as written study guides (course notes). There are also opportunities for collaborative learning through discussion forums. The following modules contribute to the holistic approach your learning path takes:

ORIENTATION MODULE

WELCOME TO YOUR ONLINE CAMPUS

1 WEEK

You'll be welcomed with a personal call and get introduced to your online learning and technical support network. Begin connecting with fellow participants while exploring the navigation and tools of your Online Campus. Be alerted to key milestones in the learning path, and review how your results will be calculated and distributed.

You'll be required to complete your participant profile, confirm your certificate delivery address, and submit a digital copy of your passport/identity document.

MODULE 1

INTRODUCTION TO MACHINE LEARNING

Learn about machine learning and its growing role in business.

MODULE 2

IMPLEMENTING MACHINE LEARNING IN A BUSINESS

Learn about where machine learning is useful, the role of data, and the importance of an implementation plan.

WHAT IS MIT SLOAN?

Find out more about

THE MIT SLOAN SCHOOL OF MANAGEMENT



MODULE 3

SENSING THE PHYSICAL WORLD

Explore the business implementation considerations for machine learning using sensor data.

MODULE 4

HELPING MACHINES TO LEARN TO USE LANGUAGE

Investigate the business requirements for the implementation of machine learning using language data.

MODULE 5

FINDING PATTERNS IN HUMAN TRANSACTIONS

Evaluate the requirements for the implementation of machine learning using transaction data in business.

MODULE 6

MACHINE LEARNING CHALLENGES AND FUTURE

Develop an implementation plan for machine learning, and consider the future of machine learning in business.

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“We will go beyond buzzwords to give you a solid, intuitive understanding of what’s going on inside Machine Learning programs and a firm foundation for thinking about how to use Machine Learning in business.”

– THOMAS MALONE,

*Patrick J. McGovern (1959) Professor of Management,
and Founding Director of the MIT Center for Collective Intelligence*

WHAT IS MIT CSAIL?

Find out more about

THE MIT COMPUTER SCIENCE AND ARTIFICIAL INTELLIGENCE LABORATORY



WHO YOU'LL LEARN FROM

YOUR FACULTY DIRECTORS

The design of this MIT online program is guided by faculty who will share their experience and in-depth subject knowledge with you throughout the course.



THOMAS MALONE

Patrick J. McGovern (1959) Professor of Management, and Founding Director of the MIT Center for Collective Intelligence

Thomas W. Malone is a Professor of Information Technology and of Organizational Studies at the MIT Sloan School of Management, and his research focuses on how new organizations can be designed to take advantage of the possibilities provided by information technology.

He has published his groundbreaking research in the book *The Future of Work*, in over 100 articles, research papers, and book chapters. His newest book, *Superminds*, appeared in May 2018. He holds 11 patents, co-founded three software companies, and is quoted in numerous publications such as *Fortune*, *The New York Times*, and *Wired*.

Malone holds a BA from Rice University, two master's degrees and a PhD from Stanford University. He also has degrees in applied mathematics, engineering-economic systems, and psychology.



DANIELA RUS

Director of the MIT Computer Science and Artificial Intelligence Laboratory (CSAIL)

Daniela Rus is the Andrew (1956) and Erna Viterbi Professor of Electrical Engineering and Computer Science and Director of the Computer Science and Artificial Intelligence Laboratory (CSAIL) at MIT. She serves as the Director of the Toyota-CSAIL Joint Research Center and is a member of the science advisory board of the Toyota Research Institute.

Rus' research interests are in robotics, mobile computing, and data science. Rus is a Class of 2002 MacArthur Fellow, a fellow of ACM, AAAI and IEEE, and a member of the National Academy of Engineering and the American Academy of Arts and Sciences. She is the recipient of the 2017 Engelberger Robotics Award from the Robotics Industries Association. She earned her PhD in Computer Science from Cornell University.

“We should think about AI, machine learning, and robots as tools. These technologies are more intelligent than the screwdrivers and the hammers we have today, but ultimately they remain tools for us to be in control of. Machines can do some things better than we can, and we can do things better than machines, so by combining our respective skills we can do so much more.”

– DANIELA RUS,

Director of the MIT Computer Science and Artificial Intelligence Laboratory (CSAIL)

MIT FACULTY



ERIK BRYNJOLFSSON

*Professor, MIT Sloan Director,
MIT Initiative on the Digital Economy*



JOSHUA TENENBAUM

*Paul E. Newton Career Development
Professor of Cognitive Science and
Computation, MIT CSAIL*



CATHERINE TUCKER

*Sloan Distinguished Professor
of Management, MIT Sloan*



ANDREW LO

*Director of the Laboratory for Financial
Engineering, MIT Sloan*



ANTONIO TORRALBA

Professor, MIT CSAIL



JEANNE W. ROSS

Principal Research Scientist, MIT Sloan



JIM GLASS (TBC)

Senior Research Scientist, MIT CSAIL



STEFANIE JEGELKA

Assistant Professor, MIT CSAIL



ALEX 'SANDY' PENTLAND

*Founding Faculty Director of MIT
Connection Science*



SINAN ARAL

*David Austin Professor of Management,
MIT Sloan*

YOUR SUCCESS TEAM

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Your one-on-one support at GetSmarter, available during University hours (9am - 5pm EST) to resolve technical and administrative challenges.



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This team from GetSmarter is available 24/7 to solve your tech-related queries and concerns.

A POWERFUL COLLABORATION

MIT Sloan Executive Education is collaborating with online education provider GetSmarter to create a new class of learning experience – one that is higher-touch, intimate, and personalized for the working professional.

WHAT IS MIT SLOAN?

The MIT Sloan School of Management is one of the world's leading business schools,¹ emphasizing innovation in practice and research, with a mission to develop principled, innovative leaders who improve the world, and to generate ideas that advance management practice. The School's focus on action learning means that students are able to apply concepts learned in the classroom to real-world business settings and, through its collaborative spirit, MIT Sloan welcomes and celebrates diverse viewpoints, creating an environment where new ideas grow and thrive.

WHAT IS MIT SLOAN EXECUTIVE EDUCATION?

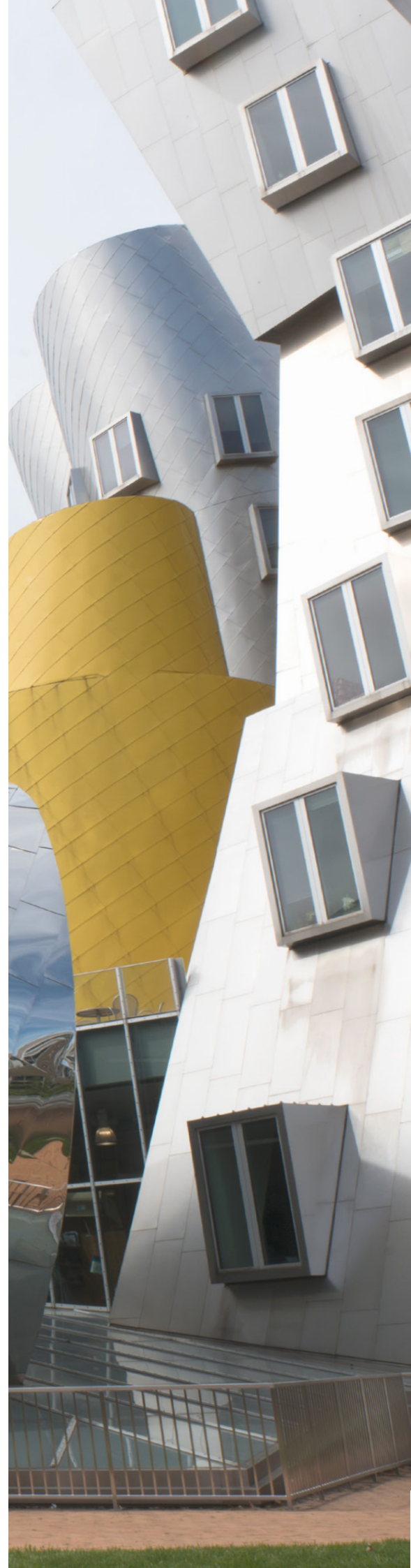
MIT Sloan Executive Education offers non-degree executive programs led by MIT Sloan faculty to provide business professionals from around the world with a targeted and flexible means to advance their career development goals and position their organizations for future growth. By collaborating with GetSmarter, a leader in online education, MIT Sloan Executive Education is able to broaden access to its on-campus offerings in a collaborative and engaging format that stays true to the quality of MIT Sloan and MIT as a whole.

WHAT IS MIT CSAIL?

The MIT Computer Science and Artificial Intelligence Laboratory (CSAIL) is the largest research laboratory at MIT and one of the world's most important centers of information technology research,² with an AI Lab founded in 1959. MIT CSAIL believes that computation is the key to creating a successful future. Members focus on the future of computing, on making computers more capable, and developing the science and capabilities of computing through advances in all aspects of computer science including the theory of computation, systems research, and artificial intelligence.

¹ *Bloomberg* (Nov, 2018)

² *CSAIL* (2018).



WHAT IS GETSMARTER?

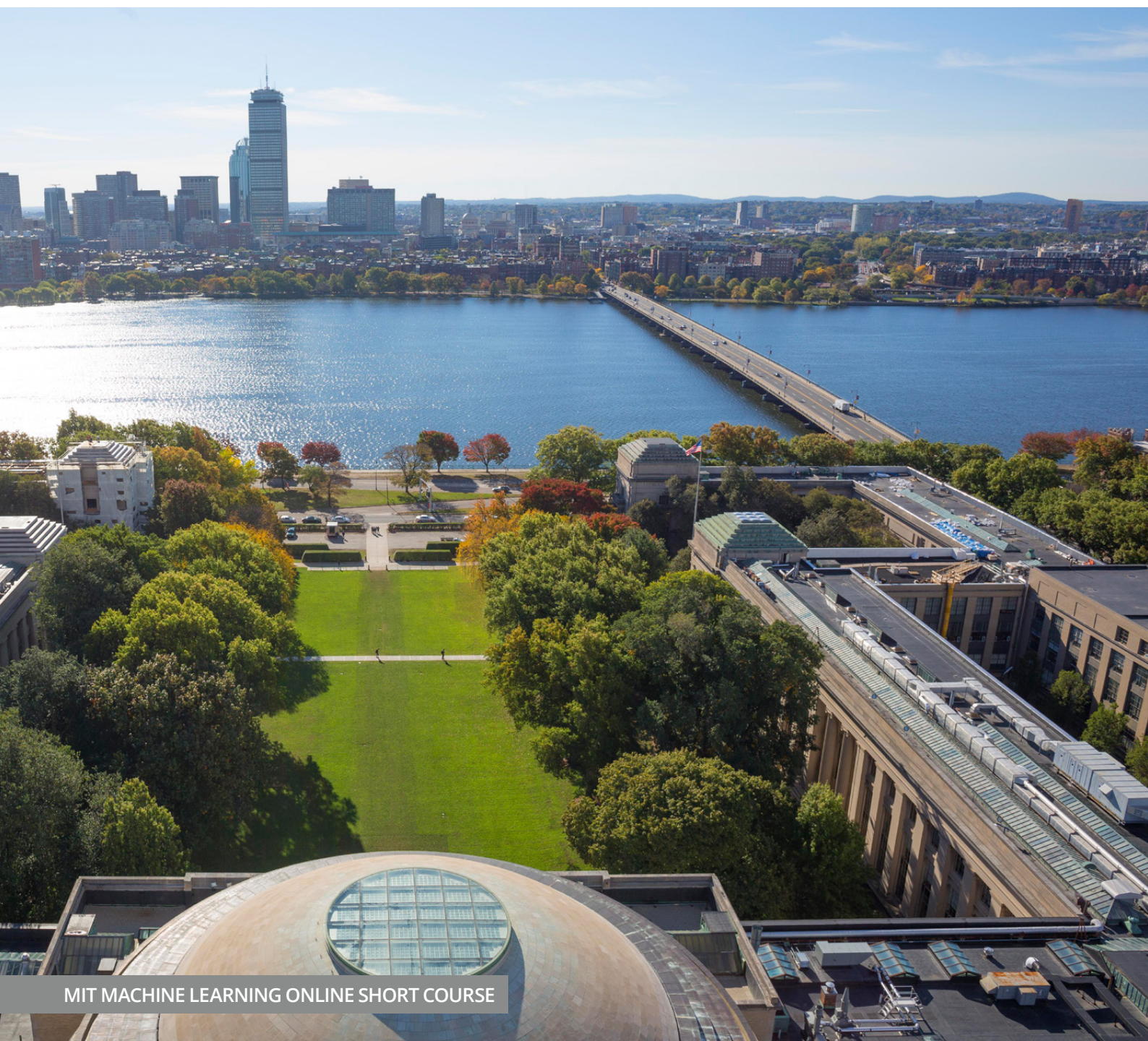
GetSmarter, a brand of 2U, Inc., is a digital education company that partners with the world's leading universities to select, design and deliver premium online short courses with a data-driven focus on learning gain.

Technology meets academic rigor in our people-mediated model which enables lifelong learners across the globe to obtain industry-relevant skills that are certified by the world's most reputable academic institutions.

MIT SLOAN CERTIFICATE OF COMPLETION

This program offers you the opportunity to earn a certificate of completion from one of the world's leading business schools – the MIT Sloan School of Management.³ Assessment is continuous and based on a series of practical assignments completed online. Your certificate will be issued in your legal name and couriered to you, at no additional cost, upon successful completion of the program, as per the stipulated requirements. This program also counts towards an MIT Sloan Executive Certificate.

³ *Bloomberg* (Nov, 2018)



HOW YOU'LL LEARN

Every course is broken down into manageable, weekly modules, designed to accelerate your learning process through diverse learning activities:

- Work through your downloadable and online instructional material
- Interact with your peers and learning facilitators through weekly class-wide forums and reviewed small group discussions
- Enjoy a wide range of interactive content, including video lectures, infographics, live polls, and more
- Investigate rich, real-world case studies
- Apply what you learn each week to quizzes and ongoing project submissions, culminating in the creation of an implementation plan for introducing machine learning in your own organization.

Each module is released weekly, allowing a flexible but structured approach to learning. You'll be supported as you engage in individual activities and group discussions, ensuring you feel confident to submit your best work at each weekly deadline.

TECHNICAL REQUIREMENTS

BASIC REQUIREMENTS

In order to complete a course, you'll need a current email account and access to a computer and the internet. You should be familiar with using a computer and accessing the internet, as you may need to read documents in [Adobe PDF Reader](#), view Microsoft PowerPoint presentations, and read and create documents in Microsoft Word. Installing [Adobe Flash Player](#) will give

you full access to certain course content, such as interactive infographics. However, you'll still have access to this content in the form of a downloadable PDF transcript if you'd prefer not to use Flash.

BROWSER REQUIREMENTS

We recommend that you use Google Chrome as your internet browser when accessing the Online Campus. Although this is not a requirement, we have found that this browser performs best for ease of access to course material. This browser can be downloaded [here](#).

ADDITIONAL REQUIREMENTS

Certain courses may require additional software and resources. These additional software and resource requirements will be communicated to you upon registration and/or at the beginning of the course. Please note that Google, Vimeo, and YouTube may be used in our course delivery, and if these services are blocked in your jurisdiction, you may have difficulty in accessing course content. Please check with a Course Consultant before registering for this course if you have any concerns about this affecting your experience with the Online Campus.



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REGISTER NOW

CONTACT US

US: +1 617 997 4979 | **GLOBAL:** +1 617 977 6889

EMAIL: mitsloan@getsmarter.com