

MIT Professional Education

MIT Professional Education (MIT PE) marked its 20th anniversary as the umbrella organization (housed in the School of Engineering) for all non-degree professional education programs at MIT aimed at engineering and technology professionals globally. All MIT PE programs (Short Programs, Digital Plus Programs, International, Custom, and the Advanced Study Program) deliver practitioner-oriented learning programs to working professionals and organizations, adhering to MIT's motto of *mens et manus* while also enhancing MIT's leadership and influence. Teaching MIT PE programs allows participating faculty to enhance their connections to the global practitioner community, thereby influencing their research and the content of courses for degree students at MIT. Professional Education faculty members come from all five schools across MIT. The recent addition of courses in multiple languages allows MIT PE to further its global reach.

Goals, Objectives, and Priorities

Principles that guide MIT PE activities include the following:

- Meet current learning needs of technology professionals globally with MIT knowledge and faculty expertise via a range of learning options that give access to learners worldwide
- Extend knowledge from MIT research and discoveries, aligning Institute initiatives and priority areas—such as innovation, MIT Task Force on the Future of Work, and climate change—with industry needs
- Maintain a relatively small but entrepreneurial, high customer satisfaction-driven organization that generates net revenue
- Deliver sizable surplus revenues to the Institute (via the Provost) and the School of Engineering for discretionary spending that includes partial funding for new faculty start up packages and setting up of labs
- Expand global outreach, with strategic emphasis on supporting learning needs in emerging markets and markets with MIT connections and aspirations
- Continue to accelerate and integrate digital learning across all programs to enhance reach and flexibility to industry learners
- Collaborate with internal and external program delivery partners and associations to provide diverse offerings to a broad spectrum of professionals and organizations globally
- Increase diversity of all kinds among our learners and reduce traditional barriers to access such as geography, language, gender, and cost

Highlights

The expansion of MIT PE programs in 2021–2022 provided us the ability to engage learners through multiple modalities of instruction, including in-person, live virtual,

hybrid (combination of in-person and live virtual), online, and blended modalities. The integration of industry facilitators into many MIT PE programs provides support in a learner's local context and environment, accelerating understanding of practical application of MIT courses.

MIT PE programs continued to experience record-breaking enrollment with nearly 14,000 participants during the 2021 calendar year. Calendar year 2022 is on pace to exceed this growth with 10,858 learners having already enrolled in PE programs by mid-year. Eighty-seven faculty taught PE courses, the highest number to date.

The notable growth of women enrolling in MIT PE programs continues, particularly seen across our online programs in Spanish, Portuguese, Italian, and French; in the Applied Data Science Program which prepares data-driven decision makers for the future, and in newly launched programs on sustainability, in which women typically exceed 50% of enrollment.

Aligned with MIT's initiative on climate change, and in anticipation of global industries realizing they can no longer delay placing sustainability at the center of organizational strategy, MIT PE launched several programs in multiple languages. Examples include "Sustainability: Strategy and Opportunities for Industry," and the professional certificate program in sustainable management."

The number of MIT faculty teaching courses this year expanded to 87, including instructors from within and outside the School of Engineering. The strengthening of relationships with existing faculty along with welcoming new faculty helps bolster PE's teaching and program capacity.

Accomplishments by Program

Digital Plus Programs

Enrollment in MIT PE online programs remained strong, with increases seen in non-English speakers amongst the record-breaking 12,178 participants. More than 60,000 participants have enrolled in courses since the launch of MIT PE digital online learning in 2014.

The number of courses offered has expanded to 21. Currently there are five professional certificate program offerings: Digital Transformation, Industry 4.0, Strategic Technology Roadmapping and Innovation, Legal Tech in the Digital Era, and Sustainability. Three blended professional certificates were added to help c-suite roles develop specialized, future-ready leadership skills. These blended certificates include Chief Digital Officer, Chief Sustainability Officer, and Chief Technology Officer. The blended learning experience includes online and in-person classes on the MIT campus, workshops, coaching in leadership, career advising, and access to a network comprising MIT faculty and senior executives.

Outreach for Africa was launched with special pricing and messaging provided in relevant languages, fostering participation in online programs by learners from countries across the continent, including Congo, Ghana, Ivory Coast, Kenya, Morocco, Senegal, Uganda, and Zambia.

Realizing the importance of learning in one's own language, online offerings in Polish have been added to those in Spanish, Portuguese, Italian, French, and English.

"Global Bridge Cambridge," an immersive telepresence learning environment, was launched in April 2022 by one of our key learning partners, Global Alumni. This technologically advanced space provides an enhanced hybrid teaching and learning environment, including monitors lining the room with faces of remote participants, the ability to have 60 on-site participants, and the capability for virtual reality/augmented reality. It is the largest space of its type available to MIT PE for hybrid instruction.

Digital Plus Programs delivered a custom webinar led by Bhaskar Pant, executive director of MIT Professional Education. Titled "The Role of Unconscious Bias in a Multicultural Workplace," the webinar was delivered to 378 employees across 120 countries in global technical organizations looking to solve issues of implicit bias in the workplace.

As the culmination of three years of offering online MIT PE professional certificate programs, the first-ever in-person certificate ceremony for remote learners was held on campus this year. Two hundred seventy recipients and their families traveled from 29 countries to receive a certificate of completion and meet faculty and peers face-to-face. A notable 25% of recipients in attendance were women. The celebration was split into two ceremonies: one for the Spanish language cohort and one for the English and Portuguese language cohorts. Abel Sanchez, executive director of MIT's Laboratory for Manufacturing and Productivity and the lead instructor for several MIT PE programs said, "I was truly taken aback. I've been active in executive education for 15 years and participated in certificate ceremonies all over the world. None of them compare."

Short Programs

Short Programs returned to in-person instruction after two years of remote instruction. Faculty and participants were eager to return to campus, witnessed by an increase of 22 course offerings and a resurgence in enrollment. Of the participants, 69% held advanced degrees including master's degrees (35%), doctorates (25%), and MBAs (6%), underscoring the appeal of receiving advanced learning from MIT.

In addition to the increase in enrollment by MIT staff and MIT Lincoln Laboratory staff, participants represented organizations including Honeywell Federal Manufacturing & Technologies, Bristol Myers Squibb, General Motors, the United States Air Force, Boeing, the US Department of Defense, the US Food and Drug Administration, Merck, Microsoft, and the Nuclear Power Institute of China. Participation by international students increased from 27% to 32%.

Short Programs continues to attract professionals at many points across their careers. Early career professionals with 1–10 years of work experience comprised 43% of participants, with mid-career professionals and emerging leaders with 11–20 or more years of experience representing 53%.

Short Programs introduced four new courses—three focused on artificial intelligence (AI) and advanced analytics to address the evolution and advances in the areas of no code

AI, graph analytics, and smart manufacturing. The other course focused on sustainable real estate development to provide industry with invaluable insights at a pivotal time in global business. Not surprisingly (perhaps in response to the pandemic), biotechnology and crisis management courses were some of the most highly attended courses.

The multi-term “Applied Data Science Program” continued to grow, with women at various seniority levels comprising 34% of participants. Overall satisfaction with the program was high at 94.4%.

International Programs

The Technology Leadership Program, a longer-term multi-week program for international participants, continued its strong enrollment. Hybrid delivery was introduced, combining in-person and live virtual participants. Lecturers engaged both groups of participants, and participant groups interacted with each other successfully during the sessions.

Custom Programs

Custom Programs is in the process of developing the “CEO Technology Quotient Immersion” program, a groundbreaking program in which MIT faculty will provide one-on-one coaching on technical topics for Fortune 100 chief executive officers. A trial run is currently being explored with the CEO of Accenture, Julie Sweet. Professor Sanjay Sarma is expected to take the lead on 5G, and School of Engineering dean Anantha Chandrakasan will speak about AI.

Advanced Study Program

In a change from previous years, the fall 2021 semester of the Advanced Study Program saw more MIT staff enroll than traditional outside students, with half of those participants from MIT Lincoln Laboratory.

For the spring 2022 semester, applications began returning to pre-pandemic levels. The highest number of applications received were again from MIT staff, of which 41% were women. Overall, 37% of applicants to the program were women, a new high for the program.

Recognition

In October 2021, Digital Plus Programs was honored as recipient of the 2021 UPCEA New England Region Innovative and Creative Programming Award. This award honors individuals and institutions demonstrating innovative and creative programming that contributes to the success of continuing education programs.

Funding

MIT PE continues to be a wholly self-sustaining entity, contributing significant surplus revenues (after paying participating MIT faculty) to the Provost’s Office and the School of Engineering for discretionary spending.

Challenges and Prospective Solutions

As MIT PE continues its outreach to underserved populations around the globe, affordability to access MIT knowledge and research remains a barrier. Partnering with other academic institutions in combination with corporate philanthropy could yield sponsorship opportunities for these learners. MIT PE will also leverage insights from our pilot program, offering special pricing for learners from African countries.

The continuing effects of the pandemic and a possible global economic downturn will continue to create challenges in maintaining or increasing enrollment. However, MIT PE's full array of instructional modalities in multiple languages is expected to continue its positive momentum as professionals around the world can choose the option that works best for them to draw knowledge from MIT.

Personnel

Cory James joined MIT PE as Short Programs coordinator, Samantha Kiernan joined as an administrative assistant manning the front office, while Lindsey Narron was promoted to program coordinator and Kristen Brace to senior financial coordinator.

Bhaskar Pant
Executive Director