



# IT DOESN'T HURT TO ASK...

## An MIT xPRO Guide to Discussing Professional Development with Your Employer

### HOW TO USE THIS GUIDE

1. Take a look at the *Architecture and Systems Engineering: Models and Methods to Manage Complex Systems* [website](#). Note which topics and learning outcomes align with your company and team goals.
2. Review the “Why Learn Systems Engineering Now” section on page two of this guide and “Common Objections” on page three to help augment your letter or support a follow up conversation.
3. Customize the yellow areas highlighted in the template on page four of this guide and send it to your manager or HR professional.
4. Read or share the following articles on how this online certificate program has helped other companies:
  - [How NAVAIR is Transforming its Engineering Workforce](#)
  - [How Shell is Shifting its Engineering Mindset](#)
5. Read or share the results of the MIT xPRO Career Impact Survey to discover how instrumental this program has been on the careers of its participants.
  - [The Upskilling Effect: Survey Reveals Career Impact of MIT xPRO's Online Systems Engineering Certificate](#)
6. Have any other questions about the program that might help your case? Or interested in group pricing for your team? Email us at [xpro@mit.edu](mailto:xpro@mit.edu).



# WHY LEARN SYSTEMS ENGINEERING NOW

Bring these facts and figures into the conversation.

1

## TALKING POINT :

“Engineers face a critical challenge in designing, managing, and optimizing complex systems for the rapidly changing products of tomorrow.”



### STAT :

A study of NASA employees by INCOSE members reported that systems engineering has a moderate to significant impact on complex systems projects. And moreover, it reported that systems engineering has a good to excellent impact on cost of complex systems projects.

### TESTIMONIAL :

Ron Aditya, Spacecraft GNC Engineer for Lockheed Martin who completed this program explains, “This program has helped me develop the system level perspective necessary to decompose complex system architecture problems and solve them in ways that enable rapid prototyping to reach the optimum.”

2

## TALKING POINT :

“For our organization and/or our client base, time is the most valuable asset.”



### STAT :

A study reported by W. Forrest Frantz looked at three similar systems being built at the same time at Boeing using different levels of systems engineering. The primary differences noted in the three projects were in the subjective quality of work and in the development time. Even in the face of greater complexity, the study showed that the use of more rigorous systems engineering practices reduced the durations from each stage of the project and overall development time.

### TESTIMONIAL :

Michael Fletcher, president of Fletcher Martin Corporation who completed this program explains, “When you have a project that’s squished into 20 weeks from planning to final completion and there’s a change, a ripple effect happens. Finding ways to minimize that ripple effect and conserve time and money is invaluable. [This program] really built a structured way of thinking that I didn’t have before, and brought up a whole new set of ideas.”



# COMMON OBJECTIONS

Your employer will have questions. Let's help you answer them.

OBJECTION	RESPONSE
"It costs too much."	<p>It might cost more to neglect workforce training. Companies that prioritize employee development make median revenue of \$169,100 per employee while companies that don't make less than half of that: \$82,800 <a href="#">(Source)</a></p>
"It will take you too much time and distract you from your work."	<p>This program is designed for professionals, with an estimated time commitment of 4-6 hours per week. Learning a new skill online does take time, but the format is flexible, offering learners the ability to watch lectures, read case studies, and practice new techniques on their own schedule.</p> <p>Plus, the time a company invests in training will save them time in the long run. A study by the National Center on the Educational Quality of the Workforce (EQW) supports this, finding that a 10% increase in educational development produced an 8.6% gain in productivity. <a href="#">(Source)</a></p>
"How is this different from those other online programs?"	<p>MIT xPRO offerings are created and taught by MIT faculty with insights from industry experts and are optimized for learners who are full-time working professionals.</p> <p>This Systems Engineering online certificate program leverages the latest thinking from MIT to explore the newest practices in systems engineering, including how models can enhance system engineering functions and how systems engineering tasks can be augmented with quantitative analysis.</p> <p>Over 10,000 professionals have taken this program and companies around the globe like Boeing, Ford, U.S. Navy, Shell, and Whirlpool are embracing this certification as a central part of their MBSE training and transformation.</p>

# EMAIL TEMPLATE

Copy and paste the following text into an email to your manager or HR professional.

Hi [MANAGER'S NAME]

I would like to submit a request for professional development through MIT xPRO's *Architecture and Systems Engineering* online certificate program. This four-course online program offers training that I believe is directly relevant and beneficial to what we're trying to accomplish within [OUR COMPANY NAME].

Employing industry case studies and the latest in systems thinking from MIT, the program explores models and methods in systems engineering. I will gain a knowledge base in complex systems, analysis of complex systems, and model management that will impact how I approach and solve problems. By the end of the program, I'll be able to frame systems architecture as a series of decisions, which can be actively sorted, managed, and optimized to suit our organization's needs.

Each course in this program has been built from the ground up through a collaborative effort between leading systems engineering faculty members from MIT and industry experts using this knowledge in the field every day from companies like Boeing, NASA, GE, and more.

Course 1: Architecture of Complex Systems

Course 2: Models in Engineering

Course 3: Model-Based Systems Engineering: Documentation and Analysis

Course 4: Quantitative Methods in Systems Engineering

The program cost is \$3,999 (USD). It contains 17 weeks of content in 20 weeks' time. This program is designed for full-time working professionals so the schedule will work with my current position. Group discounts are also available for the team.

For more information, visit: [sysengonline.mit.edu](https://sysengonline.mit.edu).

Thank you for considering my training request,

[YOUR NAME]