

# 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 *Additive Manufacturing for Innovative Design and Production* [course page](#). Note which topics and learning outcomes align with your manager's goals.
2. Look at the "Additive Manufacturing Stats" on page two 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 3 and send it to your manager.
4. Have any other questions about the course that might help your case? Email us! [xpro@mit.edu](mailto:xpro@mit.edu).

# Additive Manufacturing Stats

Bring these facts and figures into the conversation!

- The 3D printing market is projected reach \$22 billion by 2022. ([Source](#))
- The medical industry is projected to be among one of the fastest growing application of the Additive Manufacturing (AM)with a CAGR of 16.1%. ([Source](#))
- The market for AM technology in the Asia-Pacific region is projected to grow at the highest rate of 18% from 2018-2026. ([Source](#))
- The manufacturing industry is expected drive the application of AM technology, with a predicted market share of 33% by 2026. ([Source](#))
- Ford has invested \$45 million in AM technology experts and equipment. ([Source](#))
- It has been estimated that by 2050 AM could save about 90% of the raw material required in the aerospace industry. ([Source](#))
- The aerospace industry has made fuel nozzles for flight engines five times more durable and 25% lighter with AM technologies. ([Source](#))
- Parts for medical devices can be 3D printed at five to ten times their actual size and analyzed, enabling organizations to adjust the design if necessary. ([Source](#))
- AM technology shortens the manufacturing process for customized medical devices by 50–80%. ([Source](#))

**Want to learn how this course helped a professional transitioning from IT to 3D Printing Sales? [Read this.](#)**

# Common Objections

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

- **Objection:** “It costs too much”
- **Response:** 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 ([Source](#))
  
- **Objection:** “It will take you too much time and distract you from your work.”
- **Response:** This course is designed for professionals, with an estimated time commitment of 4-5 hours per week for only 7 weeks. Learning a new skill online does take time, but the format is flexible, offering learners the ability to watch lectures and read case studies on their own schedule. 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. ([Source](#))
  
- **Objection:** “How is this different from those other online courses?”
- **Response:** MIT xPRO courses are created and taught by MIT faculty, and are optimized for learners who are full-time professionals. Their data science course was created by the Institute for Data, Systems and Society (IDSS), and includes 20 case studies, hands-on-projects, and access to cutting edge, research-based multimedia content developed by MIT professors and industry professionals.

Hi

I would like to submit a request for professional development through the Massachusetts Institute of Technology's online course *Additive Manufacturing for Innovative Design and Production*. This course offers training that I believe is directly relevant and beneficial to what we're trying to accomplish within

**Program Summary:**

Through digital lectures and hands-on case studies based on examples from real-world business scenarios, I will acquire the theory, strategies, and tools I need to:

Understand the technical principles and workflows for AM of polymers, metals, and composites.

- Acquire the vocabulary necessary to navigate the complex, multivariate landscape of additive manufacturing equipment, materials, and applications.
- Understand the operating principles of each mainstream AM process and how these principles govern its performance and limitations.
- Learn to identify how, when, and where additive manufacturing can create value across the entire product lifecycle, from design concepts to end-of-life.
- Acquire the skills necessary to design parts for AM that combine engineering intuition with computationally-driven design and process-specific constraints.
- Quantitatively assess the value of an additively manufactured part based on its production cost and performance.
- Evaluate the business case for transitioning a product to be additively manufactured vs. traditionally manufactured, in part or in whole.
- Develop a cutting-edge perspective on digital transformation and the factory of the future.

**Cost & Duration:**

The course cost is \$1980 (USD) and it starts on . This program is designed for full-time working professionals so the schedule will work with my current position.

For more information, visit: <https://learn-xpro.mit.edu/additive-manufacturing>

Thank you for considering my training request,