Interim Requirements for the Graduate Engineering Leadership Program’s MIT Graduate Certificate in Technical Leadership

Developed by the MIT-Gordon Engineering Leadership Program (GEL) and the Graduate Student Advisory Group for the School of Engineering (GradSAGE).

WHO QUALIFIES Our interim certificate will be available to all MIT graduate students who satisfy the requirements (I through III) outlined below.

REQUIREMENTS

I. Completion of 6.928/16.990/15.674 Leading Creative Teams with at least a B Grade.

II. Completion of 12 or more units from any of the following graduate classes with at least a B Grade:

A. Graduate Engineering Leadership Program (GradEL) classes
   - 6.976 – Engineering Leadership in the Age of AI (12 units)
   - 6.978 – Negotiation and Influence Skills for Technical Leaders (6 units)
   - 6.979 – Multi-stakeholder Negotiations for Technical Experts (6 units)

B. Or, Graduate leadership-related classes offered elsewhere at MIT (see list below*)

III. Attending at least FOUR of the following series of SIX interactive/experiential workshops (2 hours each) offered by GradEL during the Spring 2020 semester.

   This will be a non-credit bearing requirement. All workshops will occur from 6:00 p.m.-8:00 p.m. and punctuality will be expected (the “5 minutes late” norm will not apply). Rooms will open at 5:30 p.m. and food and refreshments will be provided. Details on the room and registration will be provided later.

   • Technical leadership and finance
     Led by Olivier L. de Weck. Wednesday, February 12, 2020, in 24.121.
     This workshop highlights the link between research and development (R&D) and finance. We will present the link between the balance sheet and profit and loss statement (P/L) of companies and how R&D is typically funded. Participants will perform a simple financial analysis and discussion of a company of their choice.

   • Delivering on what matters in technical organizations
     Led by David Martinez. Tuesday, February 25, 2020, in 32-144.
     This workshop introduces the students to the concept of objectives and key results as measures of technical impact in your job and as a member of a technical team. Examples will be drawn from industry and research labs. There will be exercises emphasizing transforming technical depth into measurable contributions at different stages in your career.

   • Foundations for personal integrity in technical contexts
     This workshop centers on an interactive case analysis in small student groups. An introductory lesson frames the decision-making of technical professionals in terms of integrity and professional ethics concepts. Tools for decision analysis are presented, and students develop awareness of contextual variables that tend to strain integrity. Session concludes with case analysis debrief.

1/30/2020
• **Signature of failures in technical leadership**  
  *Led by Olivier L. de Weck. Thursday, March 19, 2020, in 32-144.*  
  This workshop will analyze in depth a case where technical leaders failed to stand up to unrealistic or unethical pressures and where their flawed decision making and execution caused major losses. Centered around the VW Emissions cheating scandal and discussion how the lessons learned apply more broadly.

• **Career and leadership paths in technical organizations**  
  *Led by Reza Rahaman and Joel Schindall. Tuesday, April 7, 2020, in 32-144.*  
  This workshop will outline and contrast the career path options in technical organizations, highlighting the ways in which different paths appeal to different motivations. Interactive discussion will use the experiences of the workshop leaders, both of whom spent 30+ years in technical organizations, to address student questions.

• **Taking charge of new roles: Strategies for your first 90 days**  
  Transitioning into a professional role is an opportune time to start positioning yourself for future impact. Students will gain practical skills such as learning what’s expected, building new networks, and mapping environments for valuable growth opportunities. “Taking charge” is a leadership skill and something that you can start practicing on your first day in a new job.

**II. B. Other acceptable graduate leadership-related classes**

15.270 Ethical Practice: Leading Through Professionalism, Social Responsibility, and System Design  
15.281 Advanced Leadership Communications  
15.304 Being Effective: Power and Influence  
15.310 People, Teams, and Organizations  
15.318 Discovering your Leadership Signature  
15.320 Strategic Organizational Design  
15.321 Improvisational Leadership: In the Moment Leadership Skills  
15.324 Practical Leadership  
15.398 Corporations at the Crossroads: The CEO Perspective  
15.661 Building Successful Careers and Organizations  
15.665 Power and Negotiation  
STS.482[J] Science, Technology, and Public Policy

* Send leadership-related class inquires and other registration-related questions to David Nino at dnino@mit.edu.

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¹ These requirements will apply for a limited time during 2020. A permanent set of requirements will be established during Spring 2020 as part of the Graduate Engineering Leadership Program (GradEL)’s curriculum design process.