GEL1 Completion Requirements

Gordon-MIT Engineering Leadership

	FALL	IAP	SPRING
GEL1 (**Junior** or Senior Year)	Engineering Leadership (6.9120/16.651) 3-units & Engineering Leadership Lab (6.9110/16.650) 3-units Fall D&ILR* (select one subject) 6+ units	**Optional**** 6.9140 Fundamentals of Engineering Project Management, 6-units	Engineering Leadership (6.9120/16.651) 3-units & Engineering Leadership Lab (6.9110/16.650) 3-units

* Design and Innovation Leadership Requirement (D&ILR)

GEL1s are expected to complete their Design and Innovation Leadership Requirement (D&ILR) in the Fall semester. If scheduling circumstances necessitate completing the D&ILR in IAP or Spring, students must propose a plan, via their GEL1 Program Completion Roadmap, making clear how they will fulfill the D&ILR. They must obtain approval of this plan and commit to following it. If unforeseen circumstances necessitate a change to this plan, students are expected to communicate it to GEL staff immediately.

** GEL1s who've completed their D&ILR are eligible to apply for consideration to attend 16.810 (IAP variant); a 4-day off-site (GEL-exclusive) course hosted in the White Mountains of New Hampshire.

FALL OPTIONS

D-TILE Design-Thinking & Innovation Leadership for Engineers*
- 6.910 A+B (taken in the same semester), 6-units
- 6.9101 can count as a substitute for Part A.
- **Class project type:** AI Chat Bot/speech recognition system

D-Lab Design for Scale
- Fall, 12-units, same as 2.729
- **Class project type:** hardware, fine-tuning a physical prototype

IAP OPTION

16.810 D-PRO Engineering Design & Rapid Prototyping
- IAP, 6-units
- **Class project type:** Multidisciplinary system (hardware, with possibility of software and other elements)

SPRING OPTIONS

EC.725 D-Lab Leadership in Design
- Spring, 6-units

Class project type: Hardware

6.9250 LP3 Leadership: People, Products, Projects
- Spring, 9-units
- Graduate-level course with space reserved for GEL undergrads

Class project type: Students select project type. Digital or physical projects are both possible.

EC.720 D-Lab Design
- 12-units

Class project type: Hardware

Capabilities of Effective Engineering Leaders

Core Values, Character, and Accountability:
- Taking Initiative
- Making Decisions in the Face of Uncertainty
- Upholding Responsibility, Sense of Urgency, and Will to Deliver
- Exercising Resourcefulness, Flexibility, and Resilience
- Committing to Ethical Action, Integrity, and Courage
- Exercising Self-Awareness, Self-Reflection, and Self-Improvement
- Developing Vision and Intention in Life and Career
- Fostering Trust, Loyalty, and Team-Building
- Embracing Equity, Diversity, and Inclusion

Relating:
- Inquiring and Dialoguing
- Developing and Deploying Structured Communications
- Negotiating, Compromising, and Managing Conflict
- Advocating and Influencing
- Building Diverse Connections and Communicating across Cultures
- Interacting Constructively; Providing and Receiving Feedback
- Building Relationships and Networks
- Managing your Relationship with your Boss
- Developing and Empowering Others

Sensemaking:
- Understanding Group and Organizational Cultures
- Maintaining Awareness of Societal and Natural Context
- Ascertaining the Needs of Customers or Beneficiaries
- Exercising Business Context Awareness and Financial Acumen
- Tracking and Assessing New Technology
- Exercising Systems Thinking

Visioning:
- Creating Motivating Environments
- Creating and Communicating a Shared Vision
- Identifying and Defining Issues, Problems, or Paradoxes
- Thinking Creatively and Depicting Possibilities
- Defining the Solution
- Architecting the Solution Concept

Delivering on the Vision:
- Forming and Implementing Working Groups and Teams
- Aligning Organizations Toward a Vision
- Understanding and Leveraging Power in Organizations
- Planning and Managing a Project to Completion
- Exercising Project/Solution Judgment and Thinking Critically
- Inventing
- Innovating
- Deploying and Operating Solutions

Technical Knowledge and Reasoning

Practiced, developed, assessed during weekly Engineering Leadership Labs