

## What is an Engineering Impactship?

Recent literature highlights a significant correlation between positive engineering internship experiences and engineering students' persistence from university into engineering careers<sup>1,2</sup>. Further, research suggests that negative internship experiences can turn otherwise high-performing engineering students away from pursuing engineering careers<sup>2</sup>. The concept of **engineering Impactships** aims to provide students with opportunities for immensely engaging engineering summer internships – as distinguished by their: **a)** high-impact assignments, **b)** substantial level of responsibility, and **c)** connection to an internal sponsor who is personally invested in helping students make the most out of their participation. In addition to the on-site component of the *Impactship* at an engineering firm, the *Impactship* experience also includes reflection and personal development components facilitated by the [Gordon-MIT Engineering Leadership \(GEL\) Program](#).

**How does it work?** GEL will collaborate with a small number of engineering employers who will host *Impactships*. Undergraduate students who are on track to complete the [GEL Year 1 Program](#) will be invited to apply to *Impactships* for the summer preceding their senior year. Students accepting an *Impactship* position will be required to participate in pre-/post- reflection and personal development assignments in addition to fulfilling the on-site position.

**Why should employers host *Impactships*?** *Impactships* represent a concerted effort to make internships more engaging, which, in turn, will theoretically boost the likelihood that participants will want to pursue an engineering career following graduation (and will increase the likelihood that the participants will want to return to their *Impactship* host company for full-time employment).

**What will successful *Impactship* experiences look like?** Successful *Impactships* will give participants opportunities to practice exercising [Capabilities of Effective Engineering Leaders](#) over the course of the summer. This capabilities set was derived from input from engineering industry leaders and educators during the formative year of the GEL Program. Based on the *Capabilities*, an *Impactship* assignment might involve, for instance, practice in any of the following (among others): *resourcefulness, awareness of customer needs, systems thinking, creative thinking, or planning and managing a project to completion*. Further, a successful *Impactship* will involve an ongoing dialogue with a sponsor – sponsors can either be highly accessible supervisors or non-supervisor mentors.

**How does *Impactship* differ from GEL's existing *InternshipPlus* program?** [InternshipPlus](#) and *Impactship* have similar goals: boosting students' engagement in engineering internships and fostering development of "engineering identity." Both programs ask students to participate in structured reflection assignments and cohort-wide discussion forum teleconferences during the summer, and both ask students to strive for added responsibilities. The difference is that *Impactships* are developed with employers in advance of students' arrival (see "Expectations for Employers," below), while *InternshipPlus* centers around internship positions that GEL students obtain on their own.

**In sum:** an *Impactship* challenges both students and employers to transform what could be a "summer job" into a lasting and fulfilling personal development experience that builds "engineering identity" in participants.

## Expectations for Employers

Employers hosting *Impactships* will:

- **Offer high-impact assignment opportunities to participants**, as marked by:
  - Participants can see the "big picture" of how their work contributes toward company success
  - Assignments include opportunities to practice [Capabilities of Effecting Engineering Leaders](#)
  - The output of the assignment will be of tangible value to the company
- **Offer serious responsibility to participants**, such as (but not limited to):
  - Presenting to senior stakeholders
  - Possession of schedule or budgetary responsibility on a project
  - Being tasked with leading a small team or coordinating the efforts of others
- **Pair committed and passionate sponsors with participants**. Such sponsors:
  - Have several years' experience in their field
  - Possess a balance of strong technical skills *and* social/interpersonal skills
  - Are viewed as high-potential technical leaders by the company
  - Most importantly: are excited (and able) to commit time to a mentoring relationship (at several hrs/week)

## Expectations for the GEL Program

The GEL Program staff will:

- **Market *Impactship* positions to GEL Program students and recruit applicants from the GEL cohort**
- **Facilitate Pre- and Post- *Impactship* self-reflection assignments**
  - The Pre- assignment encourages goal-setting, proactive discussions with supervisors about taking on stretch assignments, and identifying capabilities to focus on practicing
  - The Post- assignment asks students to reflect on performance and goal attainment and to internalize lessons-learned
- **Facilitate two mid-summer cohort-wide discussion forum teleconferences**
  - The teleconferences facilitate a sharing of ideas on how to be most effective in company environments
  - A program staff moderator helps keep the teleconferences focused on general best-practices for workplace effectiveness, and ensures discussions don't delve into any proprietary realms
  - This forum for sharing experiences helps students grow their confidence and internalize a sense of "I'm not in this alone" as it pertains to acclimating to the working world
- **Work with employers to discuss feedback and to implement improvements to the *Impactship* concept**

## Next Steps

The GEL Program, in part through feedback from members of our Industry Advisory Board, recognizes that many employers aspire to host internships that are more engaging for participants compared to their current offerings. *Impactship* is an initiative that responds to this feedback by offering employers an avenue to recruit highly motivated students from a self-selective Engineering Leadership program at MIT. We offer to partner with employers in advancing three key attributes of *Impactships* that distinguish them from "regular" internships: *high-impact assignments*, *substantial responsibility*, and connection with a *sponsor* who is committed to helping students make the most of their participation.

We are presently recruiting corporate partners who are willing to create *Impactship* positions and to recruit GEL students for these positions. For more information or to get involved, please reach out to us at GEL:

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<sup>1</sup> Atman, C. J., Sheppard, S. D., Turns, J., Adams, R. S., Fleming, L. N., Stevens, R., ... & Yasuhara, K. (2010). Enabling Engineering Student Success: The Final Report for the Center for the Advancement of Engineering Education. CAEE-TR-10-02. *Center for the Advancement of Engineering Education*.

<sup>2</sup> Lichtenstein, G., Loshbaugh, H. G., Claar, B., Chen, H. L., Jackson, K., & Sheppard, S. D. (2009). An engineering major does not (necessarily) an engineer make: Career decision making among undergraduate engineering majors. *Journal of Engineering Education*, 98(3), 227-234.