General Engineering and First-Year Engineering

General Engineering

General engineering encompasses the common curriculum for several interdisciplinary initiatives and programs for engineering students: the first-year engineering program, the entrepreneurial engineering minor, and some of the Dialogues of Civilizations experience courses.

First-Year Engineering Program

With a distinct focus on first-year engineering education, the first-year engineering program at Northeastern University prepares undergraduate engineers with the fundamental building blocks needed for all College of Engineering majors. Emphasizing hands-on, integrated design, our program leverages a state-of the art makerspace to provide our students with an immersive experience into the COE community. Through the lens of the engineering design process, the program weaves engineering ethics and research into designs created with CAD and software development programs used by leading industry engineering firms. Student designs are brought to life through our makerspace's extensive fabrication tools with support from our upperclass engineering student mentors. Dedicated first-year teaching faculty with expertise in engineering pedagogical research and a diverse array of engineering backgrounds focus on creating and evolving teaching practices to ensure that the program scaffolds students in an authentic and fully integrated manner to excel in the rest of their academic scholarship.

Mission of the Department

The mission for the first-year engineering program is to inspire our students in their pursuit of an engineering education by fostering a diverse and inclusive learning community centered around project-based, experiential learning.

Program Values

To accomplish our mission, we aim to:

- Provide state-of-the-art engineering education informed by best practices in *industry and pedagogical research*
- Introduce the fundamentals of problem solving while cultivating *systems thinking*
- Present engineering problems with *authentic complexities* that promote value-sensitive design and social and environmental justice
- Facilitate a *hands-on and teamed* learning experience through access of modern design and fabrication tools in our continually evolving makerspace
- Provide our students with the skills needed to function as independent, *lifelong learners*