1-ENG
Education with an impact
How will you change the world?

What is Big Engineering and how will you make a difference?

Big Engineering is at the core of CEE@MIT and reflects large-scale impact on people and sustainability, covering a spectrum of activities from environment to systems to infrastructure. Five strategic thrusts foster our domain leadership in life & ecology, resources & energy, infrastructure, smart cities, and global systems. 1-ENG trains students to become leaders in Big Engineering.

The effects of Course 1 have tangible, visible results: It matters

Philosophy
Engineering is change

Recognizing the changing world CEE@MIT through 1-ENG is innovating the engineering curriculum and has designed GDRs and CORES that build on the deep history of the department while growing to meet the challenges in the world today & tomorrow.

One of the founding departments of the Institute, MIT CEE is a leader in the professional and academic evolution of civil and environmental engineering education that fosters a unique combination of hands-on learning & theory, or hand & mind, the motto of MIT.

Engineering should bring together what we know about the planet with what we want it to be

The challenges of our time have huge scales, and require radically new approaches in thinking across disciplines, and a focus on human lives and their conditions, everywhere.

-- Markus Buehler, CEE Department Head
Why 1-ENG?
Engineering for impact requires a strong foundation in math, computation, probability and statistics, data analysis, and design, in addition to fundamental engineering skills such as fluid mechanics, ecology & environmental chemistry.

The design of 1-ENG into GDRs, cores, and branch subjects facilitates this selection. A student can pursue a civil or environmental engineering track, or enter new areas of study that focus on foundational themes such as systems engineering, air and water quality, or energy resources. These opportunities, serving traditional disciplines but also providing students with new options, is the basis to the design of 1-ENG.

Get inspired
You enter 1-ENG in a cohort of other students who will focus on the GDRs. There are ample opportunities to build a community, get to know the students and faculty, and to engage in hands-on research projects.

Course 1 alumni are pursuing exciting careers in diverse industries. Samples...
• Director of the Office of Recovery and Resiliency at NYC Office of the Mayor
• CEO and Founder of Protoprint
• President and CEO of Spaantech, Inc.
• Strategy Analyst at Accenture
• Engineering Exhibit Consultant at the Smithsonian
• CEO at Sweetwater Energy
• Founder and Managing Principal of Picoco LLC
• Client Support Engineer at Opower
...to name just a few

CEE has an exceptional network of current students, alumni & friends, & faculty leaders across the globe that is at your fingertips
What our students say

Whenever you apply for a job, you really feel confident that what you're learning...really gives you so many possibilities.

-Billy Ndengeyingona '15

To me I feel like I am at the forefront to what new education in America will look like in the future.

-Shanasia Sylman '15

1-ENG allows you to choose a topic you are passionate about and that is really relevant and applicable to these real-world problems.

-Theresa Oehmke ‘15

It’s all about what you want from your life and what you want to achieve. You have the ability to actually make an profound impact because you are poised to be a leader in your field, so, who are you not to make a difference in the world?

-Tess Hegarty ’17

At the end of 4 years, I look back and view myself as an extremely capable, trained engineer. I know, regardless of the problem I'm given to work on, I can do a fantastic job.

-Majdolene Khweis ‘15

The future

We believe that civil and environmental engineering will become one of the most important engineering disciplines of this century.

As we manage to control the world of the small—manifested in the nano-age—the defining challenge of human progress is the scale-up towards a sustainable future. Our graduates will become the leaders to shape this new era of civilization.

CEE is about small-scale change and big impact

CEE.MIT.EDU @MIT_CEE @ProfBuehlerMIT

Our students define the future

Our role as faculty members is helping students to discover and develop their own dreams and visions.

-- John Ochsendorf, CEE Professor

1-ENG students design & build