Excellence in Academics, Experiential Learning, and Research

A Multidimensional Undergraduate Experience

Excellence in Academics, Experiential Learning, and Research
Engineering is an exciting and evolving field. Engineers pioneer discoveries that shape society and can have a transformative impact on the world. As a student in the College of Engineering at Northeastern University, you will have the opportunity to personalize your path with five engineering departments, interdisciplinary majors, over 70 minors across seven colleges, and the PlusOne accelerated master’s program.

You will also have the opportunity for experiential learning—from laboratory exercises, senior capstone design projects, professional association activities, and research with highly accomplished faculty, to cooperative education where you gain industry experience as part of the curriculum.

In and outside of the classroom you will be engaged. Our students participate in the college’s over 60 student organizations, national and global competitions, a vibrant entrepreneurship ecosystem, and a range of global experience options.
Learn more about our transformative engineering programs

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CURRICULUM CONCENTRATIONS
Biomechanics and Mechanobiology
Biomedical Devices and Bioimaging
Molecular, Cell, and Tissue Engineering
Systems, Synthetic, and Computational Bioengineering

RESEARCH AREAS
On completion of the core curriculum, students choose one of the four concentrations, providing the opportunity for them to develop a deep level of expertise in an important academic and research area of bioengineering.

REPRESENTATIVE CO-OP EMPLOYERS
Abiomed
Becton Dickenson
Boston Scientific
Brigham and Women’s
Dragonfly
Hologic
Johnson & Johnson
Lyndra
Moderna
Pfizer
Selux Diagnostics
Solid Diagnostics
Sunovion Pharmaceuticals
Takeda
Thermo Fisher

EMPLOYER TYPES
Biotechnology
Alternative Biofuels
Medical Devices
Pharmaceuticals
Tissue Engineering
Imaging
Healthcare Consulting
Computational Biology

TYPICAL CO-OP JOBS
Medical device design, drug development, process development, bioinformatics, genetic engineering, synthetic biology, biomedical imaging, biomedical materials, biomedical device and product manufacturing

View an in-depth video of the Bioengineering Department
The Department of Bioengineering offers students a broad education built on fundamentals in science, mathematics, and engineering, with a focus on the biological applications of engineering. The program provides a rigorous engineering training along with a comprehensive understanding of the biological constraints intrinsic to designing artificial systems to interface with, augment, replace, repair, or monitor living systems. These constraints depend on the properties of the biological system involved and the functionality that is being created.

The living system may be the human body, an ecosystem, or, more broadly, a bioreactor, tissue culture system, or any system with living components. The presence of naturally occurring biological tissue places special constraints on the design and implementation of artificial constructs and their interface to living systems. Bioengineers are engineers with comprehensive understanding of the engineering requirements intrinsic to working within a biological context.

Bioengineering is a relatively new field driven by the recognition that engineering of biological systems or systems that interface with living systems requires a multidisciplinary approach that takes into account the mechanical, electrical, chemical, and materials properties of the biological system. With that in mind, the bioengineering program has been designed to provide a rigorous engineering education that endows a broad understanding of the quantitative analysis of biological systems and a deep expertise in one of four areas of bioengineering.

Students joining the Department of Bioengineering will have unique opportunities in the classroom, research labs, and experiential learning. The projects that they may be able to contribute to include bio-bandages that monitor bacterial growth or that help damaged ligaments heal faster; sheets of cells folded like origami to form a working kidney; and new materials that—like a leaf in the sun—automatically sense and adapt to changes in the environment. This is truly an exciting time!
Professor Debra Auguste is collaborating with Boston Children’s Hospital to develop new treatments to target and treat patients with triple-negative breast cancer.

Through three co-ops, Jordan Harris, chemical engineering, found his interest in medical research and immunology and is pursuing an MD/PhD at the University of Pennsylvania.

Rachel Joseph, chemical engineering, was nominated for the Udall and Truman Scholarships. She plans to pursue graduate studies in law and public policy.

Sydney Morris, chemical engineering, received a National Science Foundation Graduate Research Fellowship and is pursuing a PhD in materials science and engineering at Brown University.

Cameron Young, chemical engineering and biochemistry, co-authored 10 medical-related papers, conducted research at Boston Children’s Hospital and Mass General Brigham, and received both the Barry Goldwater and Churchill Scholarships.

The practice of chemical engineering integrates a wide range of disciplines—from physics to mathematics, biology, and chemistry—to create solutions to the world’s challenges. Chemical engineers constantly strive for ways to take discoveries from the lab and scale them up to improve life in the real world. Novel polymers for medical devices, battery technology for energy storage, systems for drug discovery and delivery, food production for global nutrition—these are just some of the ways that chemical engineering contributes to human health and a sustainable environment.

The Department of Chemical Engineering prepares students to join these efforts with a mix of rigorous academic study and practical experience in cutting-edge laboratory work. Undergraduate students are encouraged to participate in compelling research projects in biomolecular systems, complex and computational systems, engineering education and pedagogy, materials and nanomaterials, and energy and sustainability. The co-op positions available in chemical engineering span the areas of consumer products, plastics, biotechnology, nanotechnology, alternative energy, and petrochemicals, both domestically and internationally. Opportunities abound for students to enhance and apply their learning in student clubs and organizations—like the American Institute of Chemical Engineers—some of which participate in national competitions.

Our accomplished and diverse faculty are widely recognized for their research, educational impact, and leadership in the field by the National Science Foundation, National Institutes of Health, American Society for Engineering Education, and a variety of other government and professional organizations. They are committed to building and maintaining a strong, welcoming community for all in the department—particularly the students they advise, mentor, and inspire.
DEPARTMENT OF Chemical Engineering

che.northeastern.edu

RESEARCH AREAS
Biomolecular and Biomedical Systems
Complex and Computational Systems
Energy and Sustainability
Engineering Education and Pedagogy
Materials and Nanotechnology

REPRESENTATIVE CO-OP EMPLOYERS

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EMPLOYER TYPES

Biotechnology         | Pharmaceuticals |
Alternative Fuels/Energy Storage | Process Design |
Chemical Manufacturing | Product Design |
Coatings/Materials      | Nanotechnology |
Consulting              | Semiconductors |
Consumer Products       | Sustainable Agriculture |

TYPICAL CO-OP JOBS

Process engineering, biomaterials engineering, lab technician, equipment design, product development, process controls, data analysis, mixing and formulations, analytical chemistry, advanced materials, research and development

View an in-depth video of the Chemical Engineering Department
RESEARCH AREAS
- Civil Infrastructure Security
- Coastal Engineering
- Earthquake Engineering
- Environmental Sustainability
- New Materials
- Smart Infrastructure
- Sustainable Urban Engineering
- Water Quality and Public Health

REPRESENTATIVE CO-OP EMPLOYERS
- AECOM
- Barletta
- BlueWave Solar
- City of Boston
- City of Cambridge
- CDM Smith
- D.C. Beane and Associates
- Disney Worldwide Services
- DN Tanks
- Environmental Partners
- Faithful+Gould
- HDR Engineering
- HNTB Corporation
- Howard Stein Hudson
- Jacobs Engineering
- LeMessurier
- MassDOT
- McCourt Construction
- Nitsch Engineering
- Panama Canal Authority
- Parsons
- Roux Associates
- Simpson Gumpertz and Heger
- Skanska
- SMMa
- Stantec
- Suffolk Construction
- Toole Design Group
- Turner Construction
- Vanasse Hangen Brustlin
- WSP

EMPLOYER TYPES
- Environmental Consulting
- Geotech and Design
- Government
- Infrastructure Preservation
- Smart Construction Design
- Sustainable Energy
- Transportation Planning and Systems
- Urban Development

TYPICAL CO-OP JOBS
- Sustainable building and urban design, energy sector efficiency, environmental protection and design, clean water development, forensic engineering, infrastructure planning, design, and construction
The coming decades will represent a crucial time in human history as climate change, urbanization, and technological progress profoundly reshape the ways in which we live and work. From the opportunities of renewable energy and artificial intelligence to the threats of rising sea levels and overcrowded urban spaces, civil and environmental engineers work at the forefront of an ever-evolving and complex world.

Northeastern’s civil and environmental engineering students prepare for lifelong engagement with the world through a flexible curriculum and exciting co-ops across the U.S. and around the world. Our program offers leadership opportunities through award-winning student groups like our chapter of the American Society of Civil Engineers, which leads community service projects throughout the region, and Engineers Without Borders (EWB), which builds schools, water systems, and other projects for communities in Africa and Central and South America.

One favorite way for students to enhance their classroom experience is through Dialogue of Civilizations, six-week immersive faculty-led summer programs which pair cultural experience with technical learning. Recent Dialogues include trips to the Netherlands to learn about sustainable transportation, to India to learn about climate change, and to Italy to learn about resource recovery or structural engineering of historic buildings.

For students interested in research, our outstanding faculty have a variety of projects to engage with in the lab or in the field, such as developing passive sensing techniques for aquatic contaminants, designing 3D-printed nutrient sensor networks for marine environments, designing and testing structures and their components for resilience and sustainability, and pioneering offshore wind power and nearshore wave mitigation systems.

Students are mentored by faculty to reach their highest potential. We are very proud of the successes of our students, including our alumna, Logan Jackson, who received a Rhodes Scholarship upon completing her civil engineering degree and subsequently received two master’s degrees from Oxford University.
Electrical and computer engineering is at the heart of nearly all modern engineered systems. Engineers in this field not only design and build electronic and electrical devices, they also innovate in the areas of computers, computational equipment, and communication equipment. Applications that are vital to society—from transportation to energy, communications, healthcare, and more—fundamentally depend on electrical and computer engineering.

The Department of Electrical and Computer Engineering spans a wide range of sub-disciplines, encompassing robotics (including control systems and embedded systems), the Internet of Things (including networking, communications, and computer systems, architectures, and security), and big data (including machine learning, signal processing, and enabling technologies for data centers). The department has notable strength in devices and microelectronics, RF/microwave materials, and power electronics and systems.

Students in electrical and computer engineering can customize their curriculum to focus on their specific areas of interest, advised by faculty mentors who are recognized leaders in their fields. Lectures are tightly integrated with lab work, supporting classroom learning with practical application. There are plentiful research opportunities for undergraduates as well—experience with state-of-the-art equipment in our labs, and on co-ops, set students up for professional success in industry, academia, and the public sector. Student clubs and organizations, such as IEEE Northeastern, also provide opportunities for leadership, fun, and community-building, as well as creative and compelling competitions, where Northeastern teams, like Northeastern Electric Racing and NU Robotics, have distinguished themselves nationally and internationally.

TOP: Elizabeth Wig, electrical engineering, conducted research on co-op at NASA on the Mars Rover to discover a new method for detecting water underground on Mars. She is currently pursuing a PhD at Stanford University. MIDDLE LEFT: Aditi Purandare, electrical and computer engineering, conducts research in data science, high-performance computing projects, and artificial intelligence. She was awarded a Fulbright-Canada Globalink Mitacs Award, allowing her to conduct research at the University of Toronto. MIDDLE RIGHT: Jacob Kaplan, computer engineering and computer science, received a U.S. Fulbright for a teaching assistantship in Taiwan. He previously studied in Brazil and did a co-op in Tanzania. BOTTOM: Spencer Jacobs-Sholllk, electrical engineering, received the prestigious Barry Goldwater Scholarship, published research in a peer-reviewed journal, and did research co-ops at Harvard Medical School.
DEPARTMENT OF
Electrical & Computer Engineering

ece.northeastern.edu

RESEARCH AREAS
AI: Computer Vision, Machine Learning
Big Data and Algorithms
Communications
Controls
Computer Networks and Security
Computer Systems and Software
Electromagnetics, Plasma, and Optics
Microsystems, Materials, and Devices
Motion Control
Power Systems, Power Electronics
Robotics
Signal and Image Processing

REPRESENTATIVE CO-OP EMPLOYERS
Advanced Micro Devices
Amazon Robotics
Apple
Bose Corporation
BAE Systems
CarGurus
Cisco Systems
Draper Laboratories
Dell Technologies
General Dynamics
Google/Nvidia
Hasbro
Intel
iRobot
Medtronic
MIT Lincoln Laboratories
MIT Media Labs
NBC Universal
NASA Stennis Space Center
Motorola Solutions
Raytheon
Red Sox Baseball
Samsung
Schneider Electric
Shark Ninja
SpaceX
Square Robotics
StarX
Tesla
Wayfair
ZOOX

EMPLOYER TYPES
Aerospace
Automotive/Transportation
Artificial Intelligence
Biotechnology
Consumer Electronics
Defense and Security
Electronics Research and Development
Internet of Things
Medical Instruments/Technology
Power Generation/Distribution
Renewable Energy
Robotics
Semiconductor Design
Telecommunication

TYPICAL CO-OP JOBS
Software quality assurance, test and debug; hardware design; assistant substation engineer; digital signal processing; semiconductor design; embedded programming; project engineering; prototype assembly and test; power conversion design; research & development engineering support; software development; medical product design/test; robot design, test and development; circuit board design and testing; systems engineering

View an in-depth video of the Electrical & Computer Engineering Department
RESEARCH THEMES
Biomechanics, Biofluids, and Mechanobiology
Complex Fluids, Multiphase, and Multiscale Matter
Data Analytics, AI, and Operations Research
Energy Systems, Sustainability, and Environmental Protection
Engineering Education
Human-Technology Integration
Intelligent and Additive Manufacturing
Materials for the Future
Mechanics
Networks and Complex Systems
Resilient and Sustainable Service Systems
Robotics and Control Systems

REPRESENTATIVE CO-OP EMPLOYERS
Abiomed
Amazon Robotics
Apple
Bosch Thermotechnologies
Bose Corporation
Boston Scientific Corporation
Desktop Metal
General Electric
Fiskt Product Development
Fresenius Medical Care
Hasbro
Insulet Corporation
Johnson & Johnson
Lockheed Martin
NASA JPL
Philips North America
Raytheon
Recorded Future
SharkNinja
SpaceX
Tesla
Whoop

EMPLOYER TYPES
Automation
Aerospace
Automotive
Biomedical
Construction/HVAC
Consumer Products
Consulting
Defense
Energy / Renewable Energy
Financial Services
Government
Healthcare
Industrial Products
Robotics

TYPICAL CO-OP JOBS
Design, research and development, solid modeling/drafting, quality control, prototype/assembly, manufacturing, business intelligence, testing, data analysis/statistics, supply chain/logistics, sales engineering, project management, renewable energy, robotics, business consulting and systems engineering

View an in-depth video of the Mechanical & Industrial Engineering Department
Mechanical and industrial engineering is one of the broadest engineering disciplines, encompassing aspects of electrical and computer engineering, bioengineering, and chemical engineering. Mechanical engineering applications in our society are ubiquitous, from building and enhancing infrastructure to designing and fabricating machinery and structures to innovating new technologies (and integrating them effectively with existing ones). Industrial engineering is focused on processes, supporting the development and operation of the supply chains, logistics systems, and data analytics that make contemporary life possible.

To meet global challenges in these areas, the Department of Mechanical and Industrial Engineering offers academic instruction and research with real-world impact. Transforming and modernizing manufacturing to remain competitive globally; applying artificial intelligence to healthcare problems to maximize patients’ quality of life; preventing opioid addiction; combating human trafficking; using recycled materials to help homes stay cooler in warm weather; and developing robots able to learn and adaptively execute autonomous behaviors are just a few examples. There are many opportunities for students to assist in these efforts, strengthening classroom learning by applying it to practical work both in Northeastern’s labs and on co-ops locally and around the world.

Mechanical and industrial engineering students are also active in a wide array of clubs and organizations. These can be dedicated to building robots, launching rockets, assembling offroad vehicles to race in national competitions, or focused on professional development and networking with industry. In all cases, they enhance learning, build community, and connect students to opportunities and each other.

TOP: Each year, the Baja SAE Northeastern motor sports student team designs, fabricates, and races a custom off-road vehicle at the Baja SAE Collegiate Design Series competitions nationwide. BOTTOM LEFT: For her capstone project, Carey Tassel, mechanical engineering, designed a mask for COVID and the flu that could collect condensed respiratory droplets for diagnostic testing. She gained leadership experience as president of the Society of Women Engineers and pursued a PlusOne master’s degree in engineering management. CENTER RIGHT: Paola Kefallinos, mechanical engineering, received the highly selective U.S. Department of Defense Science, Mathematics, and Research for Transformation scholarship. BOTTOM RIGHT: Tyler Gogal, mechanical engineering, received a U.S. Fulbright Open Study/Research Award to pursue a master’s degree in environmental engineering with a focus in water resources from the University of Iceland.
First-Year Engineering

With a distinct focus on first-year engineering education, the First Year Engineering Program prepares undergraduate engineers with the fundamental building blocks needed for all College of Engineering majors. Emphasizing hands-on, integrated design, students gain an immersive experience in a state-of-the-art makerspace. 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 upper-class 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.

Common First-Year Curriculum

Engineering students do not need to commit to an engineering major until the end of their first year. They typically take a common first-year curriculum as shown below and complete 34 credits (17 per semester).

**MATH**
- Calculus 1 (4 credits)
- Calculus 2 (4 credits)

**ENGINEERING**
- GE1000: First-Year Seminar (1 credit)
- Cornerstone of Engineering 1 (4 credits)
- Cornerstone of Engineering 2 (4 credits)

**SCIENCE**
- Chemistry (4 credits)
- Physics 1 + Lab (5 credits)

**HUMANITIES**
- College Writing (4 credits)
- Elective (4 credits)

Advanced Placement and Transfer Credit

Credit for courses may be awarded for AP exam scores of 4 or greater and transfer courses appearing on an official college transcript with a grade of C or better. Also course credit may be awarded for scores of at least 5 on an IB higher-level exam. An academic adviser will work with students during summer orientation to determine the specific courses in the engineering curriculum for which credit can be awarded, to discuss the value of that credit in a specific program of study, and to make any necessary course schedule adjustments for the first semester.
Support for Engineering Students

Undergraduate Academic Advising
Academic advisors are available for support, advice, and referral services for all academic student issues and concerns. Engineering students are urged to talk to an advisor about any concern or issue before academic success is impeded. On the Boston campus, the College of Engineering Academic Advising Office is located in 147 Snell Engineering Center.

GE1000: First-Year Seminar
This 1 credit course, required for all new engineering students, focuses on decision-making and tools for success in studying engineering. Designed to facilitate the transition to the College of Engineering, this course is taught by academic advisors and often with assistance from upper-class engineering students. A student’s GE1000 instructor typically serves as the student’s advisor for their first year.

Engineering Faculty
The Cornerstone of Engineering courses are taught by professors who specialize in teaching first-year engineering courses to help new students meet the challenges of the transition to the College of Engineering.

University Honors Program
Honors sections of courses taken by first-year engineering students are available for those accepted into the Honors Program. For more information about the Honors Program, see: undergraduate.northeastern.edu/honors.

First-Year Engineering Residence Hall
First-year engineering students in Boston may be able to elect to reside with other first-year engineering students in the Engineering/Connections Living Learning Communities (dedicated floors in a first-year residence hall). Incoming students indicate this preference when registering for housing.

Course Scheduling
First-year courses, whenever possible, are scheduled to facilitate the formation of study groups and new friendships.

Tutoring for Engineering Students
Upper-class students are available to provide free drop-in tutoring for first-year engineering students in calculus, physics, chemistry, and engineering courses. In Boston, tutoring services are also provided by the Physics department, Math department, Chemistry Central, the Writing Workshop, student organizations, and honor societies.

Women in Engineering
Special programs (e.g., mentoring and tutoring) designed to support women students in engineering are coordinated by the College of Engineering.

Multicultural Engineering Program
Special programs (e.g., mentoring and tutoring) designed to support under-represented students in engineering are coordinated by the Director of the Multicultural Engineering Program, Richard Harris (ri.harris@northeastern.edu).
Introduction to the various majors are accomplished within the first-year engineering courses, as well as in conversations with individual engineering faculty. The College of Engineering offers a variety of majors, combined majors, and minors, giving students the flexibility to personalize their path.

**MAJORS**
- Bioengineering
- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Electrical Engineering
- Environmental Engineering
- Industrial Engineering
- Mechanical Engineering
- Bioengineering & Biochemistry
- Chemical Engineering & Biochemistry
- Chemical Engineering & Bioengineering
- Chemical Engineering & Computer Science
- Chemical Engineering and Data Science
- Chemical Engineering & Environmental Engineering
- Chemical Engineering & Physics
- Civil Engineering & Architectural Studies
- Civil Engineering & Computer Science
- Computer Engineering & Computer Science
- Computer Engineering & Physics
- Electrical & Computer Engineering
- Electrical Engineering & Music Technology
- Electrical Engineering & Physics
- Environmental Engineering & Health Science
- Environmental Engineering & Landscape Architecture
- Mechanical Engineering & Bioengineering
- Mechanical Engineering & Design
- Mechanical Engineering & History
- Mechanical Engineering & Physics

Additional information about each major can be found at: [coe.northeastern.edu](http://coe.northeastern.edu)

**MINORS**
In many cases, a student can earn a minor without course overloading. There are over 70 minors across seven colleges. Some of the popular minor choices for engineering students include:
- Aerospace Engineering
- Architectural Engineering
- Biochemical Engineering
- Biology
- Biomechanical Engineering
- Biomedical Engineering
- Business Administration
- Chemistry
- Civil Engineering
- Design and Innovation in Engineering
- Entrepreneurship
- Environmental Engineering
- Computer Engineering
- Computer Science
- Data Analytics
- Electrical Engineering
- Global Perspectives in Engineering
- Industrial Engineering
- Mechanical Engineering
- Materials Science & Engineering
- Mathematics
- Music
- Physics
- Psychology
- Robotics
- Sustainable Energy Systems

**PlusOne Program**
Select from over 475 program pathways to earn a master’s degree in just one additional year of study. [LEARN MORE](#)
Research

Northeastern is an R1 top-tier research institution as rated by the Carnegie Classification of Institutions of Higher Education. The College of Engineering is engaged in a wide array of exciting and highly innovative research areas to address global challenges and advance society. These include 18 state-of-the-art multidisciplinary research centers and institutes with funding by eight federal agencies. When combined with numerous other research efforts at Northeastern, engineering external research awards exceed $115 million annually. See: coe.northeastern.edu/coe-research. This creates a vibrant research community of faculty, graduate and undergraduate students, and collaborative government, industry, medical institution, and academic partners.

First-year students may become involved in research programs as UPLIFT Scholars. These select groups of students attend faculty research presentations during their first year and then are matched up with faculty to begin research projects. Additionally, first-year students with a GPA above 3.0 are encouraged to apply for summer REUs (Research Experience for Undergraduates) which enable them to conduct original research during a 10 week on-campus paid internship. As an upper-class student, there are additional opportunities to perform independent research working both in a university setting and/or with industry partners during their six month co-op period.

These undergraduate research opportunities provide a unique window into graduate research for students wishing to continue their education in graduate school at Northeastern or other excellent graduate programs from MIT to Stanford.
Cooperative Education

Co-op has been the centerpiece of the College of Engineering’s education since 1909, and Northeastern is ranked No. 1 in co-op/internships by U.S. News and World Report (2024).

After their first year, students typically alternate periods of classes with relevant, paid employment. Students graduate with six to 18 months of relevant work experience and a strong set of technical and professional skills, as well as a clear understanding of the career they have chosen.

There are nearly 1000 undergraduate co-op employers. Students have been hired on co-op in 47 states and 32 countries. They can work in Boston (and live on campus), set up a co-op in their hometown, or work elsewhere in the U.S. or around the world.

Students prepare for the co-op search with a one-credit professional development course. During the co-op search process, students are supported in applying and interviewing for co-ops by one of our more than 30 engineering co-op advisors.

Students do not typically take classes or pay tuition while on co-op. The median hourly co-op salary ranges from $22 (first co-op) to $30 (last co-op). Nearly 55% of our students receive a job offer from a co-op employer. 96% of our graduates are employed full time or enrolled in graduate school within nine months of graduation.

There are several co-op schedule choices for completing a Bachelor of Science (BS) degree as well as an option with the PlusOne program.

The options include:

- 4-year BS program with one or two 6-month co-ops (two co-ops shown in Figure 1)
- 5-year BS program with three 6-month co-ops (Figure 2)
- PlusOne accelerated master’s program (4-year BS plus additional two semesters of classes as a graduate student); the third co-op can be taken during the PlusOne program.

More info at: coe.northeastern.edu/undergradcoop
The co-op program helps students:

- Connect and apply classroom theory
- Grow personally and professionally
- Find careers that suit their interests and abilities
- Build an impressive resume
- Meet potential employers
- Develop valuable job search and interviewing skills
- Gain self-confidence
- Prepare to be lifelong learners
Engineering Entrepreneurship

Through the Michael J. and Ann Sherman Center for Engineering Entrepreneurship Education (Sherman Center), Northeastern University Center for Entrepreneurship Education, and a mosaic of entrepreneurial resources across the university, students have the opportunity to pursue entrepreneurship opportunities of their choice. The Sherman Center provides education on tools, concepts, and resources to foster creativity and the ability to develop commercially viable ideas. It offers a host of programs, including semester-long courses in product innovation and design, an entrepreneurial engineering minor, an entrepreneurial mentor program, a student-run product development studio, events and professional networking, and a co-op program where students are funded while working full time on their startup ventures.

Student Organizations

Students have an opportunity to develop leadership skills and engineering experience through participation in a wide variety of student clubs, organizations, and professional societies. Some highlights include:

- **AerospaceNU**
- **American Institute of Chemical Engineers**
- **American Society of Civil Engineers**
- **American Society of Mechanical Engineers**
- **BioMedical Engineering Society**
- **Black Engineering Student Society**
- **Enabling Engineering**
- **Engineers Without Borders**
- **FIRST Robotics - NUTRONS**
- **Generate Product Development Studio**
- **Institute of Electrical & Electronics Engineers**
- **Institute of Industrial & Systems Engineers**
- **International Society for Pharmaceutical Engineers**
- **NU Baja SAE All-Terrain Vehicle**
- **Northeastern Electric Racing**
- **NU Institute of Transportation Engineers**
- **NU New England Water Environment Association**
- **NU Robotics**
- **NUSound**
- **oSTEM**
- **Students for the Exploration and Development of Space**
- **Society of Asian Scientists & Engineers**
- **Society of Automotive Engineers**
- **Society of Hispanic Professional Engineers**
- **Society of Women Engineers**
- **Solar Decathlon**
- **STEMout**
- **Wireless Club**
The Students for the Exploration and Development of Space team won first place at NASA’s BIG Idea Challenge by developing the “COBRA: Crater Observing Bio-inspired Rolling Articulator,” whose snake-like design allows the robot to traverse the extreme terrains on the moon’s surface.

Students in the AerospaceNU club work in teams designing, building, and launching a rocket from scratch.

Yajing Wang, a first-year computer engineering student, works on the Adaptive Guitar project in the Enabling Engineering Lab.

The Northeastern Electric Racing team placed second in the all-electric vehicle category at the 2022 Formula Hybrid+Electric Competition.

The Society for Women Engineers at Northeastern volunteer as the Green Team, collecting recyclables from fans at a Boston Red Sox game.

The Black Engineering Student Society at Northeastern ready for their annual Black Soirée event.
Global Opportunities

With a focus on developing the next generation of engineers capable of addressing global challenges, the College of Engineering supports the opportunity for students to go global by participating in one of many programs at Northeastern. These range from studying abroad at a university for a semester to summer Dialogue of Civilizations, which are six-week faculty-led programs that pair class study with in-country experience. Global co-ops provide additional opportunities for students. Locations have included: Switzerland, Singapore, Germany, Tanzania, Costa Rica, Italy, Netherlands, Chile, Ireland, Turkey, Madagascar, China, and more. Additionally, engineering student organizations, such as Engineers Without Borders (EWB) and Innovators for Global Health, enable students to apply their engineering skills in other countries. EWB builds schools, water systems, and other projects for communities in countries such as Uganda, Honduras, and Panama. Students in Innovators for Global Health use their engineering, science, and medical knowledge to improve healthcare in developing countries such as Ethiopia and Ghana. Many students accepted into our N.U.in, Global Scholars, or London Scholars programs have the unique opportunity to begin their Northeastern experience in another country before coming to the Boston campus.

LIMITED EDITION

Global Opportunities 16

LEFT: Students participated in a Dialogue of Civilizations to study Climate Change Science and Policy in India. TOP RIGHT: Hannah Boyce, chemical engineering, is a recipient of the prestigious Harold D. Hodgkinson Achievement Award, and spent her third co-op at ETH Zurich in Switzerland researching extracellular vesicles. She is now pursuing her PhD at MIT. MIDDLE RIGHT: Innovators for Global Health student group traveled to Ghana to design medical devices using local resources, including leading students at the University of Ghana through a course in Arduino, an open-source platform used to build low-cost scientific instruments. BOTTOM RIGHT: The Engineers Without Borders student group traveled to Honduras where they designed and constructed a system to supply clean drinking water to the town of Los Planes.
For a variety of helpful information such as the admissions process and requirements, campus tours and events, financial aid information, and to Apply with the Common Application, visit Northeastern’s Undergraduate Admissions website.

For questions, prospective undergraduate engineering students can contact:

**Lisa DeBenedictis**  
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l.debenedictis@northeastern.edu  
617.373.3959

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