The new Science and Engineering Complex, opened in 2017, brings together historic engineering buildings with cutting-edge lab, teaching, and study space.

ON THE COVER: The new Science and Engineering Complex, opened in 2017, brings together historic engineering buildings with cutting-edge lab, teaching, and study space.
Tufts School of Engineering’s graduate programs challenge the traditional roles of engineers. They also challenge the boundaries of academic disciplines and research in our increasingly interconnected global community. Today, everything is about sensing and changing the world around us. At Tufts, researchers are innovating and creating new technology to improve health, increase sustainability, and educate future leaders.
FROM TUFTS TO YOUR CAREER

At Tufts School of Engineering, we know your time is valuable. Getting on track for your next promotion, or your next big job, means getting your advanced degree in as little as one year or at your own pace.

EARN YOUR DEGREE
From offering special professional education courses to networking with industry experts, Tufts Engineering can provide you with the skills to succeed. Full-time and part-time programs are available. We offer M.S. degrees in:

- Bioengineering
- Biomedical Engineering
- Chemical Engineering
- Civil and Environmental Engineering
- Computer Engineering
- Computer Science
- Data Science (Applications open Summer 2019)
- Electrical Engineering
- Engineering Management
- Human Factors Engineering
- Human-Robot Interaction
- Innovation and Management
- Materials Science and Engineering
- Mechanical Engineering

MOVE FORWARD IN YOUR CAREER
After graduating, M.S. students are prepared to join the workforce or excel in doctoral programs. Tufts Career Center has staff dedicated to helping you network and connect with companies across the science and technology sector. Recent master’s alumni are working at companies like GE Aviation, Genzyme, Google, Microsoft, MITRE, and Raytheon.

LEARN CRITICAL LEADERSHIP SKILLS
When you’re learning advanced topics and techniques in your chosen engineering specialty, our M.S. programs are flexible so you can also take elective courses that will prepare you for demanding management roles. Take professional education courses at the award-winning Tufts Gordon Institute and get ready to take the lead.

BECOME AN EXPERT IN YOUR FIELD
At Tufts, you’ll get a broad framework for learning advanced laboratory and computational techniques in any engineering field. Master’s students have the option to stay beyond the academic year, up to two additional semesters, to pursue dedicated research leading to a thesis.

To learn about our certificate and post-baccalaureate opportunities, see page 15.

AFTER GRADUATING,
our M.S. students are prepared to rejoin the workforce or to head into doctoral programs.

Workforce:
Our students go on to work at prominent companies like Google, Sensata, Geosyntec, MITRE, Apple, GE Digital, Airbnb, GitHub, Microsoft, and Cisco, just to name a few.

Doctoral:
Nearly all students who are looking to pursue additional graduate study receive acceptances by the time they’ve completed their program.

PICTURED TOP: Master’s students Daniela Torres and Kevin Ligonde work on MEMS devices and packaging and microfabrication in Associate Professor Robert White’s Microscale Sensors and Systems Lab. BOTTOM LEFT: After earning her certificate in Human-Computer Interaction, Penelope Seagrave enrolled in the Human Factors Engineering M.S. program. She completed her M.S. by studying part-time while working in machine vision at Cognex. BOTTOM RIGHT: Nereus Patel took core courses that provided a solid foundation in bioengineering while also choosing other courses of interest, and he was able to complete his M.S. degree in only one year. He went on to work as a research analyst with Ecosseal, an Australian company that helps communities sustainably manage water resources.
FROM TUFTS TO YOUR PH.D.

Research powers the future of engineering. In a Tufts doctoral program, you’ll be working at the cutting edge of scientific inquiry with top-ranked faculty in state-of-the-art labs.

EARN YOUR DEGREE
Our Ph.D. programs offer students the resources and education they need to build a career in research and teaching. Doctoral programs include:

- Biomedical Engineering
- Biotechnology
- Chemical and Biological Engineering
- Civil and Environmental Engineering
- Cognitive Science (Joint Ph.D.)
- Computer Science
- Electrical Engineering
- Human-Robot Interaction (Joint Ph.D.)
- Materials Science and Engineering (Joint Ph.D.)
- Mechanical Engineering

MOVE YOUR RESEARCH FORWARD
Tufts’ rigorous programs will challenge you to think bigger and go further. Our doctoral candidates work closely with peers and faculty on complex and innovative research projects, utilizing advanced lab space and makerspaces.

BECOME A LEADER IN YOUR FIELD
Mentorship is a critical aspect of doctoral research and teaching, and our faculty and staff are committed to your success in industry and academia. At Tufts, you’ll gain invaluable insights into the world of research and academia, and learn the skills to take you to the top.

CHANGE THE WORLD
Tufts is located just outside of the health and tech hub of Boston, where you’ll collaborate with experts across research disciplines and industries. Ph.D. students create solutions to the pressing issues of today and tomorrow.

Apply now:
gradase.admissions.tufts.edu/apply

Register for an info session:
asegrad.tufts.edu/
graduate-admissions/plan-visit

PICTURED TOP LEFT: Alvitta Ottley conducted her doctoral research in the Department of Computer Science, concentrating on visual analytics and human-computer interaction. TOP RIGHT: Mechanical engineering doctoral student Anthony Sullivan works in the fields of materials science and material mechanics, investigating the evolution of material properties during manufacturing. MIDDLE RIGHT: Aydin Sadeqi, a Ph.D. student in electrical and computer engineering, researches in the Nanoscale Integrated Sensors and Circuits Laboratory (NanoLab). BOTTOM: Physician Dimitra Pouli studied optical diagnostics at Tufts as a Ph.D. candidate in biomedical engineering, researching in the Optical Diagnostics for Diseased and Engineered Tissues Lab.
HEALTH ADVANCES

Tissue engineering. Genomics. Arterial grafts made of silk. When Tufts engineers think about human health advances, we think on every scale—from tracing the neurological effects of nano-sized pollutants to mapping patterns of disease transmission worldwide.

HUMAN-TECHNOLOGY INTERFACE

Robotics takes inspiration from cognition and the human mind. Touch screens and implantable devices connected to the Internet of Things blur the line between technology and the body. Tufts engineers integrate thought, sight, and touch into interfaces as intuitive as they are high-tech.

SUSTAINABILITY

Tufts engineers are changing the way we use the world’s finite resources and plan for our future. (Think water, fossil fuels, and green energy.) The age of planned obsolescence is over. The age of responsible, ethical, and sustainable engineering practice has begun.

PICTURED: Professor Sameer Sonkusale and co-authors devised an inexpensive process to create degradable microneedles—which can deliver medication through the skin without causing pain—using polyvinyl alcohol polymer. At its base, each needle is about one-tenth of the width of a human hair; at its point, it is around one-one hundredth the width of a hair.
EXPAND YOUR KNOWLEDGE

Earn a Ph.D., master’s, certificate, or post-baccalaureate degree that will prepare you for success in your chosen field, from traditional engineering disciplines to fields like engineering education and engineering management. At Tufts School of Engineering, our rigorous and innovative graduate degrees enable you to work across departments and disciplines in pursuit of your career and research goals.

Enroll in an interdisciplinary master’s program and study subjects like human-robot interaction or bioengineering through the lens of a particular engineering discipline, or enroll in a joint Ph.D. program and work with academic departments across the School of Engineering and the School of Arts and Sciences.
When it comes to diagnostic techniques, no word eases a patient’s mind more than “noninvasive.” For more than 15 years, Professor Irene Georgakoudi has been conducting research related to the use of light in detecting and treating human diseases. Her main research areas are the development of novel optical biomarkers for early cancer detection, in vivo flow cytometry, and optical monitoring of cell–matrix interactions in engineered tissues. With funding from the NIH, the NSF, and the American Cancer Society, her work may make “biopsy” an anachronism.

Heart attack remains one of the leading causes of death in the United States. But Associate Professor Lauren Black is working to change that statistic through cardiovascular tissue engineering. His focus: understanding the biophysical signaling mechanisms responsible for the development of healthy and diseased myocardium. He studies mechanical forces, electrical stimulation, and cell–matrix interactions. The ultimate goal is to design and develop new methods for repairing heart tissue—methods that will save and extend the lives of heart patients.

Associate Professor Qiaobing Xu is developing ways to enable drugs to destroy cancerous growth more effectively than existing treatments and to target other diseases traditionally considered “undruggable.” New protein-based therapy allows for highly targeted disease treatment. The problem is that, unlike compounds used in chemotherapy, proteins are too large to easily cross the cell membrane to penetrate into the cytoplasm. Instead, most protein therapies work by targeting specific receptors on the surface of diseased cells. He is developing a method to transport the protein inside the cell by binding it with a nanoparticle that can cross the cell membrane and release the protein.
CHEMICAL AND BIOLOGICAL ENGINEERING

DEGREES
Bioengineering: Cell and Bioprocess Engineering track (M.S.)
Biotechnology (Certificate, Ph.D.)
Chemical Engineering (M.S., Ph.D.)
Chemical Engineering: Materials Science and Engineering (Joint Ph.D.)

04 Chemical engineers and computer scientists collaborate to develop computational tools to better understand metabolic systems ranging from a single pathway to a whole cell. 05 To create the next generation of solar cells, researchers in the Green Energy and Nanostructured Electronics Lab seek to boost the power conversion efficiency of organic photovoltaics. 06 By manipulating nanoscale structures, chemical engineers create new catalysts to decrease the cost of producing alternative fuels, like hydrogen.

04/ Kyoungbum Lee and Soha Hassoun's Lean Operation

Obesity is an epidemic—a consequence of the abundance of cheap, high-calorie foods—leading to health problems from diabetes to heart disease. Tufts professors are working to identify enzyme targets to reduce cellular lipid accumulation and the formation of new fat tissue. Computer Science Professor Soha Hassoun works with Professor Kyoungbum Lee in his Tissue and Metabolic Engineering Laboratory to build computational tools to better understand these metabolic processes.

05/ Matthew Panzer's Electric Flexibility

Associate Professor Matthew Panzer is working to make the next generation of solar cells lighter, cheaper, and more flexible. By capturing ionic liquid in a gel, he can create a new generation of flexible electronics that could be used in inventive ways that today’s rigid and bulky batteries and supercapacitor devices can’t match. Think wallpaper lighting or touch-screen t-shirts. These new supercapacitors could also be used to provide additional acceleration and charging power for electric vehicles.

06/ Maria Flytzani-Stephanopoulos Works to Clear the Air

Professor Maria Flytzani-Stephanopoulos, director of Tufts’ Nano Catalysis and Energy Laboratory, conducts research to solve problems in the production of clean energy. She investigates the properties of nanoscale metals and oxides as catalysts and sorbents for fuel processing and the production of hydrogen for fuel cell applications. In recognition of her work, she was elected to the National Academy of Engineering, one of the highest professional distinctions accorded an engineer. She was also named the Robert and Marcy Haber Endowed Professor in Energy Sustainability.
Roughly 800 million people don’t have access to an “improved” water source, like a piped system or protected well, designed to shield the water from microbiological contamination. What is the alternative? One short-term solution is to treat the water at home. Associate Professor Daniele Lantagne specializes in developing, implementing, and evaluating household water treatment projects in developing countries and areas of emergency. In addition to her lab research, she has applied her knowledge to help make water treatment products more approachable and easier to use.

Despite decades of environmental clean-up efforts, groundwater contamination levels exceed regulatory standards at thousands of hazardous waste sites across the United States; in developing nations, the problem is staggering. Professor Linda Abriola’s research explores how contaminants migrate and persist in the subsurface. Much of her work has focused on chlorinated solvents, a family of chemicals and known carcinogens used as degreasers and in dry cleaning, and on nanomaterials, emerging pollutants that may pose new risks. In the Integrated Multiphase Environmental Systems Laboratory, she couples laboratory experiments and mathematical modeling to develop new tools for waste site characterization and remediation.

Inspecting bridges for damage is a slow, dangerous, expensive process. Even the most experienced engineers can overlook cracks in the structure or other critical deficiencies. In the detection system developed by Associate Professor Babak Moaveni, sensors are permanently attached to bridge beams and joints. Each sensor continuously records vibrations and processes the recorded signal. He is collaborating with Associate Professor Usman Khan in Electrical and Computer Engineering to develop a wireless system using autonomous flying robots to collect data from the sensors while taking images of bridge conditions.
COMPUTER SCIENCE

DEGREES

Bioengineering:
  Bioinformatics track (M.S.)

Computer Science
  (Postbac, Certificate, M.S., Ph.D.)

Computer Science:
  Cognitive Science (Joint Ph.D.)

Computer Science: Computer Engineering (Certificate, M.S.)

Computer Science: Data Science (Certificate, M.S.)

Computer Science: Human-Robot Interaction (M.S., Joint Ph.D.)

Human-Computer Interaction (Certificate)

As robots increasingly become part of our lives, engineers connect cognitive science to computer science to make our interactions simpler and more natural. Improving the tools and structure for building domain-specific languages will help keep hackers out of everything from cars to military equipment. Computational biologists develop algorithms that can predict the structure and function of proteins, which are folded in complicated, highly asymmetrical 3D shapes.

Imagine a future in which robots and human beings work hand in hand. What would the robot need to know? How would the two communicate? Professor Matthias Scheutz is researching ways to answer these fundamental questions and developing methods for humans and robots to interact more intuitively. To be successful, intelligent robots must perceive their environment, make useful inferences and decisions, and communicate effectively with humans. Outcomes will influence the design of assistive mobility technologies for people with disabilities, and support applications in telemedicine and search and rescue operations.

Professor Kathleen Fisher served a three-year stint as a program manager for the Defense Advanced Research Projects Agency (DARPA). Fisher's DARPA project—known by the acronym HACMS, for High Assurance Cyber Military Systems—is devoted to finding ways to build vehicular software that is provably invulnerable to popular hacks. Of course, the Department of Defense's first priority wasn't safeguarding our Jeeps and Priuses, but rather the thousands of military vehicles—on land, sea, and air—that rely on similar technologies. The same principles apply in preventing hackers from gaining access to critical systems in everything from power grids to medical devices.

Professor Lenore Cowen studies all aspects of computational molecular biology as it relates to proteins, from sequence to structure to function, with particular interest in protein–protein interaction networks. Algorithms, machine learning, and even graphics/visualization are all part of the toolbox needed to solve problems in computational biology. She uses these tools to predict the presence of a protein-fold pattern called a "beta-helix" in proteins that cause disease. Innovations in vaccination and drug therapies are built on this kind of knowledge.
MRIs, CT scans, and X-rays have long represented the cutting edge of medical imaging technologies, but each has drawbacks because of the potential health risks they pose to patients. Associate Professor Valencia Koomson, who directs the Advanced Integrated Circuits and Systems Lab, is working to change that with noninvasive technology that does not require the patient to lie still. Her goal is to develop sensor circuitry that can process multiple wavelengths of light passing through human tissue and send high-resolution images to neurologists and cardiologists wirelessly and in real time.

Enhancement algorithms take the guesswork out of object detection, which is important in making split-second security decisions in real-time. Computer engineers are studying improvements to the energy efficiency of processors, devices, and batteries.

Traditionally, we use subjective evaluation to determine whether an unclear image can be enhanced in a way that becomes useful—for instance, to recognize faces or detect threat objects in airport security. This isn’t feasible for processing large amounts of visual data in real time. In Professor Karen Panetta’s Laboratory for Imaging and Simulation, engineers develop algorithms to allow computers to “see” and evaluate images as humans do. Her Human Visual System Modeling is the foundation for many applications in robotic vision—from medical to military.

As modern society’s use of technology continues to grow, power is key. While processors are able to run faster than ever before, it isn’t possible to adequately cool computers to sustain those speeds, which means that some parts of the processor must be run slowly or powered off entirely. Associate Professor Mark Hempstead designs computing solutions that are more energy efficient than existing platforms. His research group uses hardware accelerators that compute tasks up to 100 times more efficiently than a standard processor, and is developing new methods to help designers build more efficient hardware.
DEGREES
Bioengineering: Biomechanical Systems and Devices track (M.S.)
Human Factors Engineering (M.S.)
Human Factors in Medical Devices and Systems (Certificate)
Human-Computer Interaction (Certificate)
Manufacturing Engineering (Certificate)
Mechanical Engineering (M.S., Ph.D.)
Mechanical Engineering: Human-Robot Interaction (M.S., Joint Ph.D.)
Mechanical Engineering: Materials Science and Engineering (Joint Ph.D.)

16 In the Human Factors and Applied Cognitive Systems Engineering Laboratory, students research the “human element” of design, including team performance during software simulations. 17 Using microfluidics and high-speed cameras, researchers can study the biomechanics and transport of swimming cells. 18 In the Engineering Learning Systems Lab, researchers develop new community-connected STEM learning opportunities for K–12 students, and study their efficacy.

16/ DAN HANNON ENGINEERS FOR PEOPLE
You might think military experts would be better than a group of novices at using tactical software to locate a fictitious enemy in a complex environment. But Professor of the Practice Dan Hannon would prove you wrong. An experimental psychologist by training, he recently led an experiment that shows that team performance can depend more on how information is provided—in terms of software design and experiment setup—than on prior knowledge or expertise. His research is one example of how the discipline of human factors engineering is clueing people in to the need to think about the end-user when designing products for real people.

17/ JEFF GUASTO SINGLES OUT CELLS
Associate Professor Jeff Guasto’s research centers on the biomechanics of swimming cells, such as bacteria and plankton. Understanding how single cells behave—how they swim, find food, avoid danger, or, in the highly specialized case of sperm, navigate to an egg—could have significant impact on biomedical devices, ecosystem dynamics, and micro-robotics. To study fluid and biological physics at micron scales, His research incorporates state-of-the-art experimental methods including microfluidics and high-speed video microscopy.

18/ KRISTEN WENDELL ENGINEERS EDUCATION
How do children best learn engineering concepts, and how can educators help cultivate a lifelong interest in engineering? Assistant Professor Kristen Wendell is poised to answer. Her research focuses on characterizing and supporting sophisticated disciplinary practices during engineering learning experiences. From tablet-based apps to a hands-on portable maker workshop designed to help young engineers create functional prototypes of their designs, she and Tufts’ Center for Engineering Education and Outreach are on the cutting edge of studying how students learn.
Interdisciplinary learning is key to understanding engineering issues in the context of the larger world. Tufts students have the opportunity to collaborate with faculty and researchers across disciplines while focusing on their own areas of interest—true for all Tufts Engineering M.S. programs, and particularly for five programs that cross departments.

**BIOENGINEERING (M.S.)**
The Bioengineering master’s program provides a broad education in engineering and biotechnology, while offering a focus on a specific engineering track that best fits students’ interests and career choices. Each track is hosted by an engineering department:
- Bioinformatics (Computer Science)
- Biomaterials (Biomedical Engineering)
- Biomechanical Systems and Devices (Mechanical Engineering)
- Cell and Bioprocess Engineering (Chemical and Biological Engineering)
- Environmental Biotechnology (Civil and Environmental Engineering)
- Signals and Systems (Electrical and Computer Engineering)

**COMPUTER ENGINEERING (M.S.)**
The M.S. program in Computer Engineering provides training across the discipline, and teaches core competencies in hardware, software, and computer networking. It is offered by two departments:
- Computer Science
- Electrical and Computer Engineering

**DATA SCIENCE (M.S.) — APPLICATIONS OPEN SUMMER 2019**
The Data Science master’s program provides a disciplinary core of machine learning, statistics, and big data. The first cohort of students will matriculate at Tufts in the fall of 2020.
- Computer Science
- Electrical and Computer Engineering

**HUMAN-ROBOT INTERACTION (M.S.)**
As intelligent autonomous robots increasingly become part of our lives, human-robot interaction seeks to understand and improve all aspects of interactions between humans and robots.
- Computer Science
- Electrical and Computer Engineering
- Mechanical Engineering

**MATERIALS SCIENCE AND ENGINEERING (M.S.)**
Materials scientists study how the history of a material influences its structures and properties, advancing understanding in research areas that include metallurgy, solid-state physics, and biomaterials. Students in this program pursue classes offered by multiple departments, to achieve mastery in the field. Participating faculty come from across the School of Engineering and the School of Arts & Sciences.
Tufts University’s Gordon Institute prepares scientists and engineers to become technology leaders and innovators. Taught by renowned faculty with extensive industry experience, our graduate programs feature a combination of classroom sessions, real-world projects, and team-based activities that prepare students to shape solutions for the future.

**MASTER OF SCIENCE IN ENGINEERING MANAGEMENT (MSEM)**

The Master of Science in Engineering Management (MSEM) is a part-time degree designed for working professionals who want to enhance their technical experience with advanced management and leadership skills. Students have the option of a two-year or three-year experience that is a combination of classroom learning, a summer team consulting project, and a capstone leadership project.

Weekend and evening class formats are available—each offering the same relevant, rigorous, and transformational educational experience that distinguishes the Tufts MSEM. Every detail of the program is designed with the needs of a working professional in mind, enabling students to balance work, life, and school.

Successful applicants come from a broad range of science and engineering backgrounds and work experiences. Most have an undergraduate degree in a STEM discipline, at least three years of strong work experience, and the ability to contribute in a dynamic classroom environment.

**MASTER OF SCIENCE IN INNOVATION AND MANAGEMENT (MSIM)**

The Master of Science in Innovation and Management (MSIM) is a full-time, one-year program designed to broaden the education of recent engineering and science graduates with the skills needed to succeed as leaders in the technology sector. Coursework focuses on: new product development, finance, and strategic management, as well as essential leadership skills including conflict resolution and building teams. Students can choose to specialize in one of three tracks: entrepreneurship, operations management, or technical depth.

The MSIM program is designed for those with an undergraduate STEM major or candidates with a strong interest in technology and strong quantitative skills. Unlike the MSEM, work experience is not required.

**PROGRAM: TECH + BUSINESS**

Develop your innovation, leadership, and management skills and build your technical depth with our dual-degree program. You can combine our M.S. in Innovation & Management or M.S. in Engineering Management with a technical engineering master’s degree or graduate certificate. Earn the two degrees in an accelerated timeframe and at a reduced cost.

PICTURED: Students in the MSEM and MSIM programs learn in interactive classroom environments in the newly renovated Science & Engineering Complex and Collaborative Learning & Innovation Complex.
DISCIPLINES

JOINT PH.D. PROGRAMS

Working with collaborators across the university, Tufts School of Engineering offers three joint Ph.D. options, maximizing interdisciplinary connections and innovative research opportunities. Students apply to a joint Ph.D. program through a home department; participating Tufts Engineering departments are listed below.

**COGNITIVE SCIENCE (JOINT PH.D.)**
Cognitive science is an interdisciplinary effort to understand and explain the mind, and is a research program with enormous future societal benefits, especially as intelligent artificial agents are becoming an increasing part of our lives. The Cognitive Science program is associated with the Departments of Psychology, Computer Science, Child Study and Human Development, and Education.
- Computer Science

**HUMAN-ROBOT INTERACTION (JOINT PH.D.)**
Doctoral students have the opportunity to build a unique degree program for themselves as they lay the foundations for future generations of researchers and practitioners working with robots. Participating departments:
- Computer Science
- Electrical and Computer Engineering
- Mechanical Engineering

**MATERIALS SCIENCE AND ENGINEERING (JOINT PH.D.)**
Tufts faculty offer strengths in soft, structural, electronic, computational, and nano materials, and the new Tufts Interdisciplinary Advanced Materials (TIAMAT) Center brings it all together.
- Biomedical Engineering
- Chemical and Biological Engineering
- Civil and Environmental Engineering
- Electrical and Computer Engineering
- Mechanical Engineering

PICTURED TOP LEFT: Cognitive science is a paradigmatic, interdisciplinary research program with increasing societal impact. TOP RIGHT: Materials science and engineering research at Tufts spans disciplines, ranging from electrical and computer engineering to mechanical engineering to chemistry. BOTTOM: Trust is an important consideration in the growing field of human-robot relationships. Nao robots can be taught to trust human users and fellow robots via a series of instructions.
Get the content—and the credit—you need to retrain or refocus your career.

Tufts’ practice-oriented certificate programs consist of four or five graduate courses primarily offered in the late afternoon or evening. Our graduate courses are taught by award-winning, tenured professors in Tufts School of Engineering, as well as by industry professionals. The certificate credits equal roughly half of the credits you’ll need for a master’s degree, and credits will transfer to our graduate programs. When applying for an M.S. program after completing a certificate, the GRE score requirement is waived for students with a cumulative GPA of 3.7.

More questions? Email us at certificates@tufts.edu or visit us at go.tufts.edu/certificates.

BIOMEDICAL ENGINEERING
Advance your understanding of diagnostic imaging instrumentation and learn about biomaterials to design artificial joints and engineer tissue implants.

BIOTECHNOLOGY
Learn the techniques to engineer pharmaceutical products and manipulate genetic material to advance our understanding of disease prevention, nutrition, and material science.

CIVIL AND ENVIRONMENTAL ENGINEERING
Gain experience and research training at the intersection of the natural and built environment to pursue a career in environmental health, engineering mechanics, structural systems, geosystems, or water resources engineering.

COMPUTER ENGINEERING
Hone your skills in the analysis, design, and operation of computers, and enhance your knowledge of computer-involved systems and products in a digital world.

COMPUTER SCIENCE
With technology advancing at a rapid pace, opportunities for innovative applications of computer science are limitless. The certificate program offers professionals the foundation in and knowledge of the hottest topics in computer science to rapidly advance your career.

DATA SCIENCE
Apply computing to scientific and engineering analysis and problem solving in this certificate program, using statistics, data visualization, and machine learning. Data science has far-reaching applications in engineering, medicine, business, education, and more.

ENVIRONMENTAL MANAGEMENT
Develop the skills you need to understand complex regulations, negotiate environmental treaties, and navigate multinational corporate programs.

HUMAN FACTORS IN MEDICAL DEVICES AND SYSTEMS
Develop your skills and meet the increasing demand for skilled professionals who work on the design and evaluation of medical technology in the field of human factors engineering.

MANUFACTURING ENGINEERING
Increase your knowledge of 3D design and production techniques to reduce labor costs, increase productivity and profitability, tighten performance standards, and improve quality.

MICROWAVE AND WIRELESS ENGINEERING
Learn the electrical engineering concepts and cutting-edge techniques to design devices for radar and satellite technology, wireless radio and optical communication, cable broadcast, and the medical field.

POST-BAC
The School of Engineering’s Department of Computer Science also offers a post-baccalaureate program for academically talented, highly motivated students who have at least a Bachelor of Science or Bachelor of Arts degree in disciplines with relevant mathematics and science content.

K–12 ENGINEERING EDUCATION
The next generation of innovators is sitting in your classroom. The Teacher Engineering Education Program (TEEP) empowers teachers to bring hands-on engineering to your students. TEEP online graduate courses are designed to build knowledge in engineering and expertise in teaching engineering. Participants enroll in four graduate-level courses that are rigorous and engaging.

The TEEP program is modeled after the Tufts Center for Engineering Education and Outreach’s in-person, hands-on workshops and courses. Courses are fueled by hands-on challenges, work with your own students, and discussions. For content courses, participants are shipped a kit of materials right to their door, and upload pictures and video of their engineering design solutions in an easy-to-use website. Pedagogy courses task participants with interviewing students, trying activities in their classrooms, and discussing readings.

Learn more about the program at teep.tufts.edu.
Tufts is located just five miles outside of Boston, a metropolitan city rich in history, world-class cultural resources, and cutting-edge industry. On campus and off, graduate students network, make connections, and build a vibrant student experience.

LIFE IN MEDFORD AND SOMERVILLE
The Tufts campus sits just a short walk from the hip neighborhood of Davis Square in Somerville. Students enjoy easy access to Cambridge and Boston via the subway and local bus routes. Most graduate students live within a three-mile radius of campus in the walkable, community-oriented cities of Medford and Somerville.

PROFESSIONAL DEVELOPMENT
From managing personal finances to managing research data and everything in between, Tufts hosts programming to support graduate students in all aspects of their lives. We offer workshops, winter internship opportunities, career matching events, and more.

Learn about professional development at go.tufts.edu/GradProfessionalDevelopment

TUFTS CAREER CENTER
The Tufts Career Center offers one-on-one advising, resources, and workshops to help students set career goals and develop strategies and skills to achieve them. A dedicated engineering advisor is available to discuss career decision-making, job searching, interview preparation, and more.

GRADUATE STUDENT COUNCIL
The Graduate Student Council (GSC) provides a forum for graduate students from across the university. The GSC hosts an annual research symposium, regular coffee hours with Tufts deans, the Tufts Ignite lightning-style timed talk competition, and social and volunteer opportunities that range from food drives and apple picking to a full week of events for National Graduate Student Appreciation Week.

PICTURED TOP LEFT: Tufts offers professional development workshops on scholarly expertise, career preparation, communication skills, leadership and collaboration, and personal development, like this week-long teaching bootcamp for Ph.D. students. TOP MIDDLE: Tufts has a wide range of clubs and extracurricular opportunities for students to expand their experience. Here, the Tufts chapter of the American Society of Mechanical Engineers hosts its annual dinner. TOP RIGHT: Graduate students have numerous opportunities to volunteer and get involved in their local communities, including participating in a Reverse Science Fair at Medford High School or introducing Tufts neighbors to their research at the university’s annual Community Day.

BOTTOM LEFT: Most graduate students live close to Tufts’ beautiful campus on the border between Medford and Somerville. BOTTOM RIGHT: Davis Square provides quick subway access to downtown Boston.
ADMISSIONS INFORMATION

Tufts School of Engineering seeks students from across the country and around the world who are passionate about gaining the knowledge and know-how to meet the world’s most pressing challenges.

For a complete set of instructions and program deadlines, visit asegrad.tufts.edu

VISITING TUFTS

ATTEND AN INFORMATION SESSION
Visiting our campus is the best way to get a feel for the Tufts graduate school experience. By attending an information session, you will have the opportunity to learn more about the degree program you are interested in.

> Register for an upcoming session at
asegrad.tufts.edu/graduate-admissions/plan-visit

We also encourage students to reach out to the department graduate directors to arrange meetings with faculty and/or current students.

APPLYING

Online application located at gradase.admissions.tufts.edu/apply/

INTERNATIONAL STUDENT ADMISSION
Applicants who are not native speakers of English are required to take the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). Please note: Only official scores are accepted. If applicants satisfy specific conditions, they are not required to provide a TOEFL or IELTS score. More detailed information can be found on our website.

GRE Requirement
GRE scores may be waived for part-time M.S. students with five years of industry experience, who are U.S. citizens or permanent residents. The M.S. in Engineering Management does not require GRE scores. Visit go.tufts.edu/engmasters for complete details.

SCHOLARSHIP AID
The cost of a graduate education varies, depending on the amount of support you receive. The types of funding (scholarships, fellowships, and assistantships) available to support students vary by program. To apply for tuition scholarships, teaching assistantships, and research assistantships, complete the Scholarship Aid Application section of the online application. For more information, visit our website.

DIVERSITY COMMITMENT
We believe that the diversity of our graduate students deeply enriches our community. A diverse student body is fundamental to our academic mission to provide multiple views and perspectives that enhance the teaching, research, and development of new knowledge. In addition to promoting academic and research diversity, our mission is also to achieve cultural diversity by creating a welcoming academic and social environment for all students.
Application deadlines
To check your program’s deadlines, visit asegrad.tufts.edu/graduate-admissions/application-deadlines

You’ll need to submit
• Academic records
• Letters of recommendation
• Personal statement
• Resume/CV
• GRE scores*
• $85 application fee

Contact
Office of Graduate Admissions
gradadmissions@tufts.edu
617-627-3395

*GRE scores may be waived for part-time M.S. students with five years of industry experience who are U.S. citizens or permanent residents. Our M.S. in engineering management does not require GRE scores. Visit go.tufts.edu/engmasters for complete details.