



**WENTWORTH**  
INSTITUTE OF TECHNOLOGY

# College of Engineering and Technology

**Boston, MA**

*Innovation in the Making*





## The Five Factors of Career Success

Wentworth offers a unique combination of five factors that help ensure career success through a seamlessly integrated program of learning, building, and doing. Yesterday's credentials are no match for the challenges of the future—only at Wentworth do all these factors converge to prepare you for the career you envision.

### 1 Focused Academics

Wentworth's strong academic offerings are guided by our commitment to EPIC Learning (Externally collaborative, Project-based, Interdisciplinary Culture). Our programs emphasize both curricular and extracurricular learning, enabling students from different majors to collaborate on complex projects—just as they would in the workplace.

### 2 Cooperative Learning

Students complete a minimum of two semesters of cooperative learning experiences (co-ops), applying classroom knowledge in professional working environments. Through co-ops, students learn to think on their feet as they tackle projects that have real-world implications and impact.

### 3 Innovation & Entrepreneurship

Wentworth provides opportunities for students to adopt an entrepreneurial mindset and identify and fulfill technical, societal, and economic needs with innovative ideas and solutions that the world has never seen before.

### 4 Collaboration & Partnerships

Wentworth collaborates with the Colleges of the Fenway as well as a host of universities, corporations, neighboring communities, and other partners on a wide range of projects. These opportunities provide students with hands-on experience as well as important professional connections.

### 5 Ideal Location

The Wentworth campus is conveniently located within a world-class center of technology, business, and culture. Some of the most respected institutions of higher learning, medicine, and finance are based in Boston—which even boasts an area known as the Innovation District. The combination of these elements creates ideal work and learning opportunities for Wentworth students.

## Welcome from the Dean

**THE COLLEGE OF ENGINEERING AND TECHNOLOGY** encourages students to get their hands dirty, to test their intellectual mettle, and to tackle relevant, meaningful problems involving a range of engineering and computer science disciplines. Every day, students and faculty work together to build solutions that can make the world better, and our experiential learning opportunities produce tangible products, tools, and technologies that improve how people live, work, and communicate. Whether in private practice, industry, or government, our graduates distinguish themselves by their practiced and proven ability to think creatively and create thoughtful solutions.

*Innovation in the Making.* It's what we're about, and what you can build here. We look forward to supporting your journey.

**Frederick Driscoll**, Dean

Find us online: [wit.edu/cet](http://wit.edu/cet)



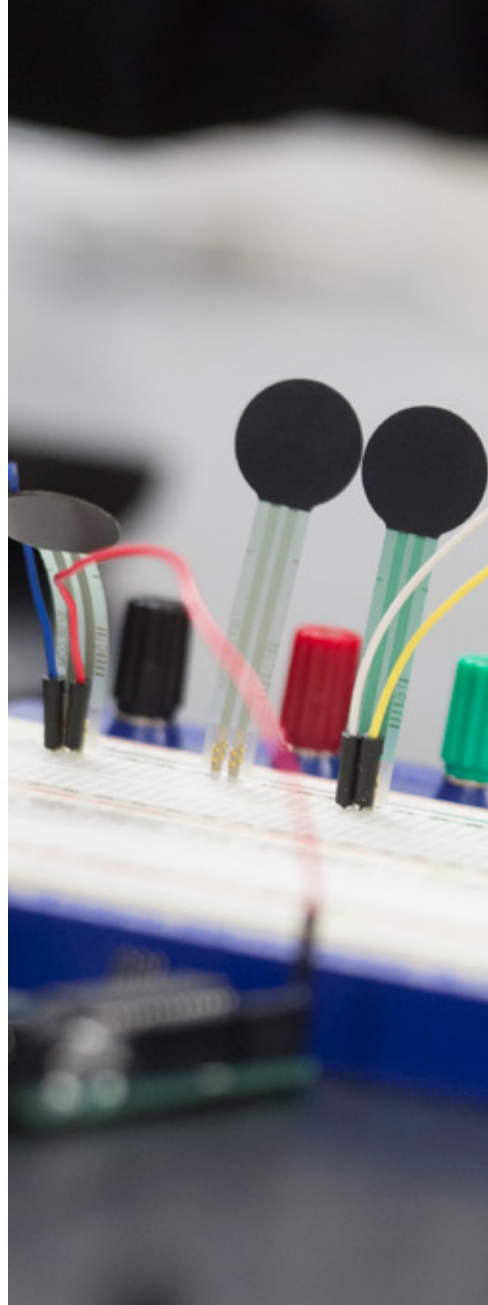


# Biological Engineering

## **BACHELOR OF SCIENCE IN BIOLOGICAL ENGINEERING**

Biological engineering integrates the physical sciences, mathematics, and engineering with cellular and molecular biology for a wide range of applications involving living organisms and the natural world. Biological engineers apply the engineering principles of analysis, synthesis, and design to biological systems such as the environment, water, medicine, energy, materials, and food.

Through hands-on learning attained through extensive lab work and two semesters of co-ops, students are immersed in the convergence of physical sciences, life sciences, and engineering, giving them the opportunity to create innovative solutions to biological-based problems. With this degree, students can build careers in healthcare, pharmaceuticals, industry, and organizations focused on the environment. The biological engineering major can also serve as preparation for advanced graduate studies, including pre-med programs. (Organic Chemistry II is a pre-med prerequisite.)



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Biological Engineering is an interdisciplinary major with the College of Engineering and Technology and the College of Arts and Sciences.

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## Biomedical Engineering

### **BACHELOR OF SCIENCE IN BIOMEDICAL ENGINEERING**

This project-based program educates future biomedical engineers through practice-oriented training. Graduates emerge with the ability to utilize advanced technologies, contribute to innovative solutions in a collaborative environment, and make appropriate decisions for their areas of professional responsibility. Led by our talented faculty, students develop the skills to design, build, test, report, and assess results for applications in biomedical engineering processes, designs, and projects.

The Biomedical Engineering program emphasizes medical devices and systems, which leverage the proximity and strength of the large number of medical device companies in Massachusetts, as well as nearby medical and research institutions. These connections prepare students for rewarding careers in healthcare-related industries, hospitals, academic and government research laboratories, and regulatory agencies, as well as advanced studies.

### **A MAJOR SELECTION OF MINORS**

Whether to delve more deeply into aspects of their major, or to branch out and gain an understanding of other disciplines, students may choose to declare a minor. Though requirements vary by program, minors typically comprise 16 to 20 credits of course work; additional credits earned through directed research or project-based learning may also be required. Wentworth currently offers minors in the following areas:

**Aerospace Engineering**

**Applied Mathematics**

**Biology**

**Business Management**

**Chemistry**

**Civil Engineering**

**Computer Networking**

**Computer Science**

**Construction Management**

**Electrical Engineering**

**Industrial Design**

**Interdisciplinary  
Bioinformatics**

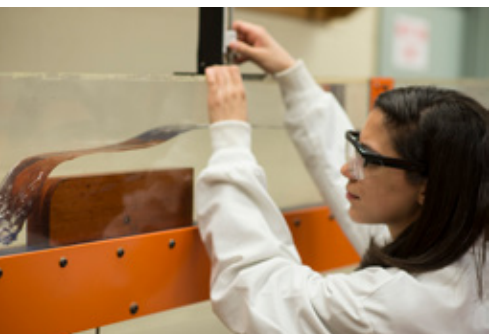
**Manufacturing**

**Media, Culture, and  
Communications Studies**

**Performing Arts**

(offered through Colleges of the Fenway)

**Physics**

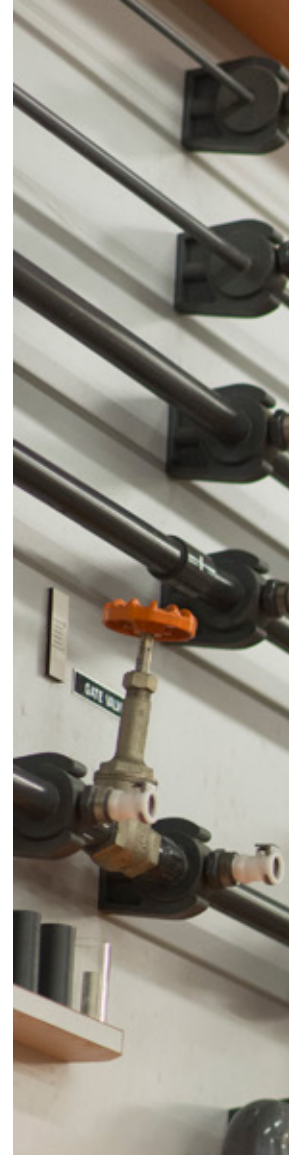


## Civil Engineering

### BACHELOR OF SCIENCE IN CIVIL ENGINEERING

Civil engineers are entrusted by society to create a sustainable future and enhance the quality of life for individuals and communities as planners, designers, constructors, and operators of one of society's key economic and social engines—the built environment. They serve as stewards of the natural environment and its resources; as innovators and integrators of ideas and technology across public and private sectors; and as leaders in discussions and decisions shaping public environmental and infrastructure policy.

The Civil Engineering program offers a rigorous curriculum designed to prepare students to enter this dynamic profession, pursue advanced studies, and become a licensed professional civil engineer. The curriculum allows students to specialize their individual studies in the geotechnical, structural, environmental, or infrastructure areas of civil engineering.



### ACCELERATE FUELS INNOVATION

Accelerate, Wentworth Innovation + Entrepreneurship Center builds innovative thinking and entrepreneurial confidence among students. Accelerate extends Wentworth's existing strengths and disciplines to drive thought partnership and interdisciplinary engagement while connecting students with mentors, alumni, and professionals who inspire them to learn, explore, push their ideas, follow their passion, and grow. Rather than teaching entrepreneurship from a theoretical perspective, Accelerate embraces the "maker culture" and focuses on producing solutions in the physical world while also providing mentoring, workshops, and connections to industry.

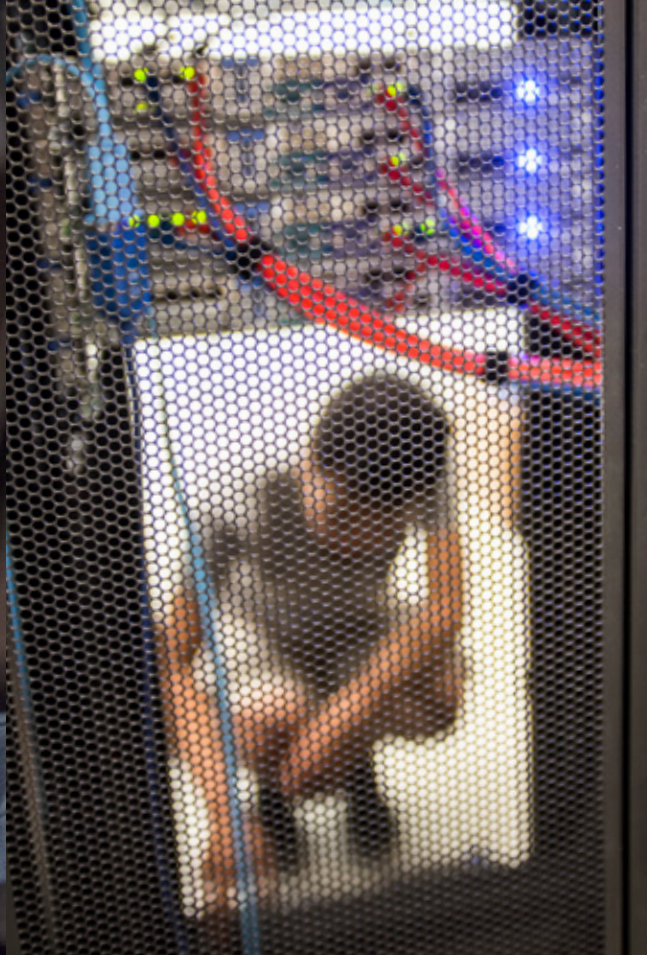
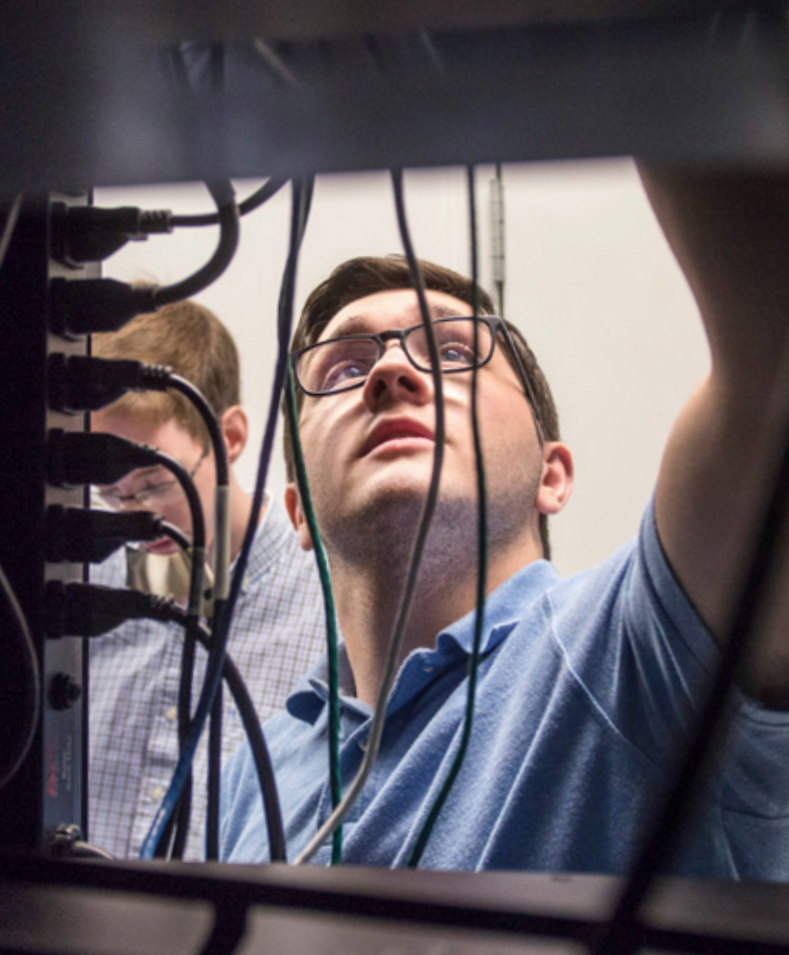
To date, Accelerate has engaged over 5,400 participants through events and programming. More than 1,000 students have submitted over 700 ideas as part of interdisciplinary teams, and have been awarded a total of \$279,000 in funding to develop their early-stage ideas. Accelerate offers four main programs to all Wentworth students:

- **Startup Challenge** – A platform for interdisciplinary teams to nurture their passion from idea to prototype while expanding their knowledge and pitching for gap funding (up to \$10,000) to make it real.
- **Social Innovation Lab** – A 12-week program for six co-op students from six different disciplines, providing an immersive experience partnering with numerous external organizations to address large-scale social challenges impacting individuals and communities.
- **External Collaborations** – Bootcamps for civic and service innovation bringing together students across Boston, design thinkers, experts, and community partners from diverse disciplines to ideate around a challenge facing the city.
- **Innovate!** – Innovation immersions implemented in classrooms and at other engagement points across campus and in the curriculum to expose students to the mindset and competencies relevant for innovation + entrepreneurship.









## Computer Engineering

### **BACHELOR OF SCIENCE IN COMPUTER ENGINEERING**

Computer engineers build, analyze, design, and evaluate computer systems. They are involved in many hardware and software attributes of computing, from the design of computer networks to digital circuits. Our students take courses in logic design, computer organization and architecture, embedded computer systems, engineering design, operating systems, computer networks, digital signal processing, software engineering, database systems, circuits, and electronics. The Computer Engineering program incorporates a project-based course of study and a learning environment that utilizes laboratory exercises and collaboration as part of most engineering courses. Our graduates are well prepared to pursue an advanced degree or immediately launch a rewarding professional career.

## Computer Information Systems

### **BACHELOR OF SCIENCE IN COMPUTER INFORMATION SYSTEMS**

Wentworth's Computer Information Systems program links the worlds of business and computer science. Through an interdisciplinary lens—encompassing courses in computer science, business management, math, science, humanities, and social science—we study business organizations and the programming, databases, and networks that support them. A minor in business management is built into the degree program. Students can also select an additional minor of their choice.

Offering a solid background in the analysis, design, development, deployment, and administration of computer-based information systems within a business management context, graduates are well prepared for the growing number of opportunities in the field. Students complement their broad business knowledge with strong technical skills in databases, systems analysis and design, business processes, networking, and project management, along with essential problem-solving skills.

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Computer Information Systems is an interdisciplinary major with the College of Engineering and Technology and the College of Arts and Sciences.

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## Computer Networking

### **BACHELOR OF SCIENCE IN COMPUTER NETWORKING**

Computer networking professionals design, manage, and secure the complex networks and systems that are the foundation of every information technology infrastructure. Students in Wentworth's Computer Networking program learn from our experienced faculty how to apply cutting edge technology to creative technical solutions for modern business operations and initiatives. Studies focus on routing and switching protocols, network and system administration, security best practices, and database design and management. Introductory programming, scripting, and web development are also included. A specialized networking lab provides students with project-based, experiential learning opportunities in network configuration, security, and operations. Our graduates are qualified for jobs in areas such as network administration, network engineering, system administration, database administration, web design, operations support, and security.

## Computer Science

### **BACHELOR OF SCIENCE IN COMPUTER SCIENCE**

Computer scientists seek to improve the lives of others by designing and developing software solutions to a wide variety of problems. Students in Wentworth's Computer Science program learn a range of valuable, practical skills from our brilliant faculty that prepare graduates for productive industry careers. Studies begin with a strong foundation in high-level programming languages, such as Java, then continue with key computer science areas including algorithm design and analysis, operating systems, distributed computing, databases, and software engineering. Students also select advanced elective courses from topics such as mobile application development, web development, artificial intelligence, embedded computing, biostatistics, and machine learning. Our graduates are prepared to work as software engineers, programmers, and analysts across standard, web, and mobile device platforms.

# Electrical Engineering

## **BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING**

Electrical and electronic components, devices, and equipment are integrated into a wide range of products and technologies, from biomedical systems to the smart power grid. Students in Wentworth's Electrical Engineering program study, model, analyze, and design the systems that our society relies on. Working closely with our expert faculty, students gain the theoretical foundation, problem-solving skills, and laboratory exposure to successfully design, build, and test their projects. Our graduates are ready for professional careers in fields such as analog and digital systems, acoustics, biomedical devices, computers, electric vehicle supplies, robotics, communication and control systems, sources of alternative energy, power distribution, smart grids, healthcare-related industries, hospitals, and academic and government research laboratories. Many of our students also choose to pursue graduate studies in the discipline.

# Electromechanical Engineering

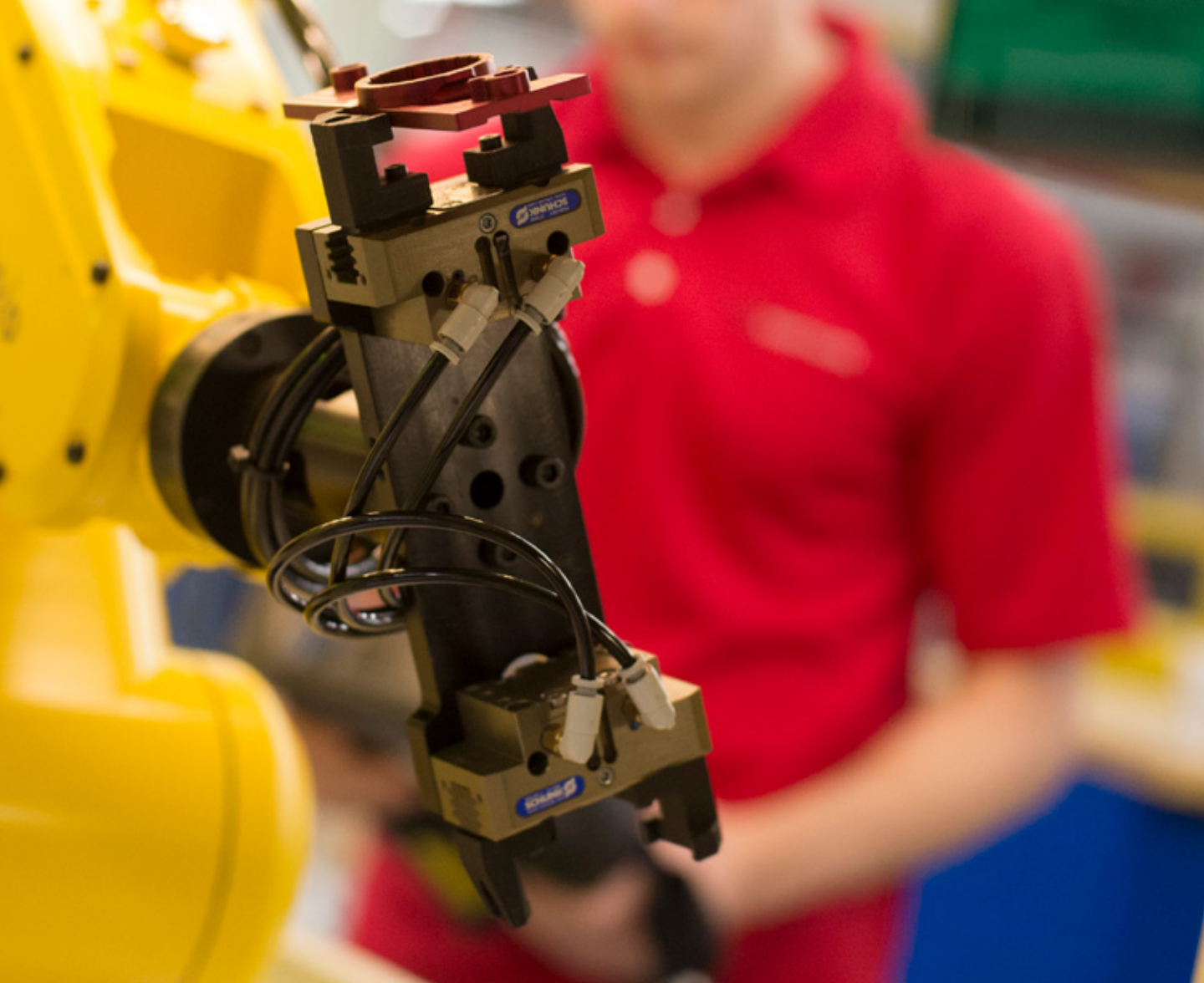
## **BACHELOR OF SCIENCE IN ELECTROMECHANICAL ENGINEERING**

Working closely with our experienced faculty, Wentworth's Electromechanical Engineering students expand their knowledge of math and science and gain expertise in both electrical and mechanical engineering. This five-year program includes lab courses where students use state-of-the-art equipment to test engineering principles in areas such as statics, mechanics, material analysis, electronics, and systems.

Our graduates emerge from the program prepared for careers in a wide range of dynamic fields, including robotics, automated controls, communications, computers and peripherals, transportation, solar power, biomedical devices, manufacturing, new product development, sustainability, and applied research, and to pursue graduate studies in electrical and mechanical systems.







**THE VALUE OF COOPERATIVE EDUCATION**

All undergraduate programs at Wentworth require a minimum of two semesters of cooperative learning experiences (co-ops). Co-ops are full-time work experiences in real-world settings, enabling students to graduate with eight months to one year of professional, paid experience in their field and on their résumé.

For most students, co-ops occur in the spring semester of the junior year and the fall semester of the senior year. For five-year majors, co-op occurs in the summer before the senior year and fifth year. Members of Wentworth's career services staff work individually with each student to find their ideal co-op placements.

**WENTWORTH CO-OP SCHEDULE FOR MOST PROGRAMS OF STUDY:**

YEAR 1		
Fall CLASSES	Spring CLASSES	Summer BREAK
YEAR 2		
Fall CLASSES	Spring CLASSES	Summer OPTIONAL CO-OP*
YEAR 3		
Fall CLASSES	Spring CO-OP	Summer CLASSES
YEAR 4		
Fall CO-OP	Spring CLASSES	Summer CLASSES

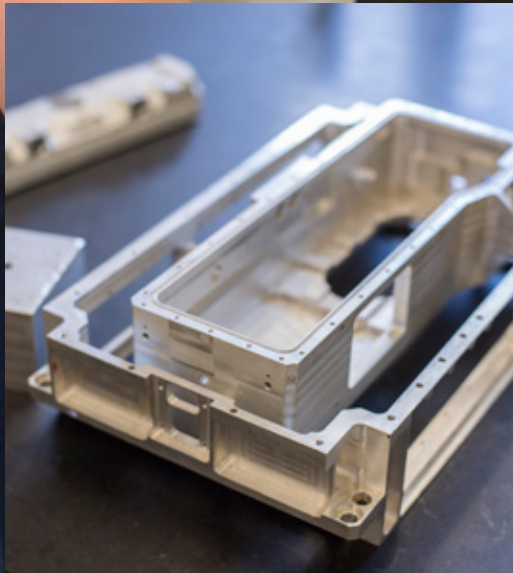
\*Optional co-op or summer break





### ACCREDITATIONS

- **Wentworth:** Accredited by the New England Association of Schools and Colleges.
- Please visit [wit.edu/accreditation](http://wit.edu/accreditation) for information on individual program accreditation.







## Engineering – Interdisciplinary

### **BACHELOR OF SCIENCE IN ENGINEERING**

Wentworth's interdisciplinary Bachelor of Science in Engineering degree program offers an innovative curriculum that enables students to broaden their education by integrating an engineering concentration (Biomedical, Civil, Computer, Electrical, Manufacturing, or Mechanical) and a minor of their choice. Students in the program have the flexibility to customize their education—both in their specialized area of engineering study and in their minor—with the assistance of a full-time faculty mentor. Our Engineering program provides a variety of academic opportunities in diverse subjects such as computer science, biology, chemistry, management, literature, music, and art. Students also have the opportunity to complete a study abroad semester focused on engineering. Given their highly prized and sought-after multidisciplinary skills, our graduates have launched successful and rewarding careers in engineering management, automated controls, computers and peripherals, transportation, sustainability, manufacturing, and creating startups.

## Mechanical Engineering

### **BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING**

Offering a project-based curriculum, Wentworth's Mechanical Engineering program balances theory, simulation, and laboratory exercises, giving students the skills and knowledge needed to model, analyze, design, and realize physical systems, components, and processes. Open-ended, team-based design problems provide an opportunity for Mechanical Engineering students to collaborate with peers from other disciplines. The program integrates applied engineering design and the extensive use of computers with a faculty committed to a curriculum that parallels industrial challenges and changes.

Our students use computer software and test equipment extensively to verify and develop principles of engineering in diverse areas such as statics, thermodynamics, material science, data acquisition, structural analysis, and machine design. Upon graduation, they are well prepared for traditional industries of mechanical design and engineering, as well as emerging opportunities such as manufacturing and the development of biomedical and electromechanical devices.

# Quick Facts

## A VIBRANT CAMPUS LIFE IN A WORLD-CLASS CITY

Wentworth's fully wireless campus offers a safe and secure environment within a world-class center of higher education, culture, and business. Campus amenities include co-ed residence halls; a dining hall; bookstore; fitness center; athletic fields; gymnasiums; a brand-new, state-of-the-art library and learning commons; high-tech computer, engineering, and science labs; a 24-hour Department of Public Safety, and easy access to nearby restaurants, museums, and public transportation. Health, counseling, intercultural, learning, and career centers are available to all students. Wentworth also features more than 50 student organizations and chapter memberships in professional associations. [wit.edu/reslife](http://wit.edu/reslife)

## CAMPUS VISITS

Register online for daily tours, open houses in the fall, and special campus events throughout the year. [wit.edu/visit](http://wit.edu/visit)

## ADMISSIONS

Wentworth evaluates admission applications on a rolling basis, once all necessary documentation has been submitted. Applications are available online. Priority deadline for applicants is February 15. [wit.edu/apply](http://wit.edu/apply)

## COSTS

Tuition for the 2017-18 academic year is \$32,954, which includes the cost of a laptop computer; typical room and board expenses are \$13,640 per academic year.

## FINANCIAL AID

Approximately 85 percent of Wentworth students receive some type of financial aid (federal, state, Wentworth, and private). Wentworth offers both merit scholarships and need-based financial aid. In 2017, 99 percent of accepted students received a merit scholarship. The FAFSA is required to be considered for federal aid. **Call our Financial Aid Office at 1-800-222-9368 to learn more.**

## ATHLETICS

An NCAA Division III school, the majority of Wentworth's 17 intercollegiate varsity athletic teams participate in the Commonwealth Coast Conference. [wit.edu/athletics](http://wit.edu/athletics)

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|---------------------|---------------------|
| → Baseball (M)      | → Lacrosse (M, W)   |
| → Basketball (M, W) | → Rowing (M)        |
| → Cross Country (M) | → Soccer (M, W)     |
| → Golf (M)          | → Softball (W)      |
| → Ice Hockey (M)    | → Tennis (M, W)     |
| → Indoor Track (M)  | → Volleyball (M, W) |

## COLLEGES OF THE FENWAY

Colleges of the Fenway is one of Boston's largest academic collaborations. This partnership with Emmanuel, Simmons, and Wheelock Colleges, Massachusetts College of Art and Design, and Massachusetts College of Pharmacy and Health Sciences University features cross-registration, social events, intramural sports, clubs, and an expanded campus community. [colleges-fenway.org](http://colleges-fenway.org)

## RANKINGS

Wentworth is ranked #71 out of 137 ranked schools in the "Regional Universities (North)" category in *U.S. News & World Report's* 2018 "Best Colleges." The Institute is also ranked #44 out of 200 ranked schools in the "Best Undergraduate Engineering Programs Whose Highest Degree is a Bachelor's or Master's" category.

Wentworth has been named a "Best in the Northeast" college by The Princeton Review on its website feature "2017 Best Colleges: Region by Region" for 10 consecutive years.

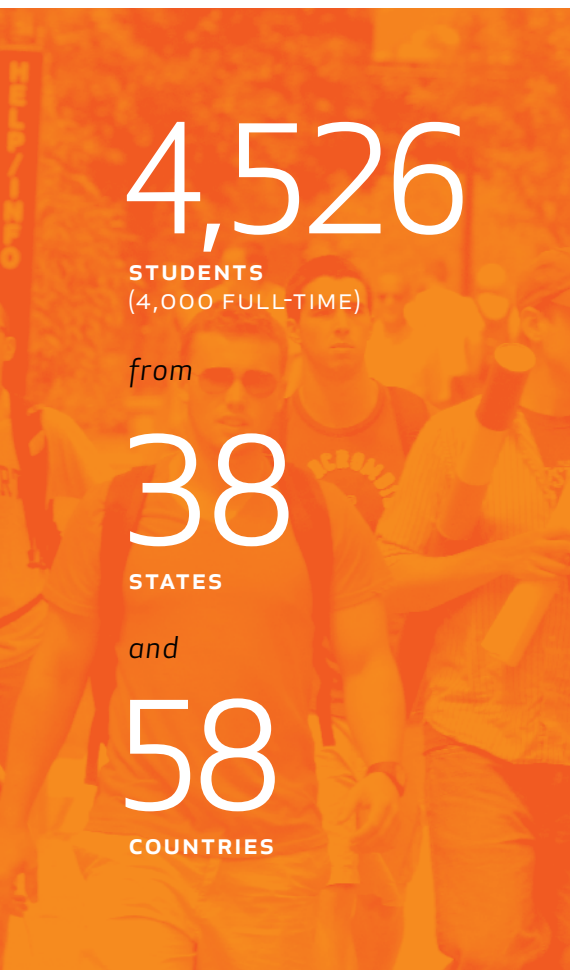
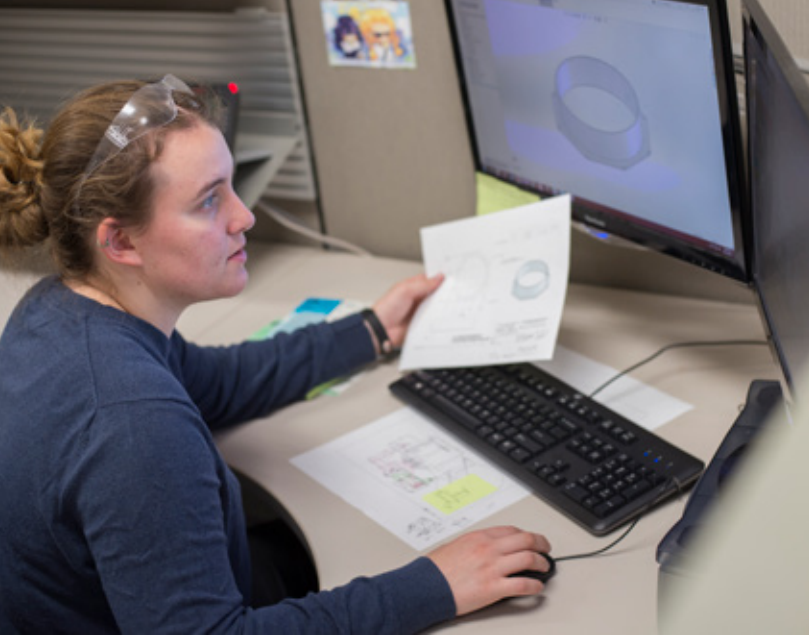
The Brookings Institution ranks Wentworth among the top seven schools in the United States for occupational earnings power, with a score of 100/100.

Payscale.com ranks Wentworth among the top 6 percent (99/1833) of colleges and universities in its 2017 College ROI Report.

*The Wall Street Journal's* college rankings place Wentworth at #478 out of 500 ranked schools and more than 1,000 total colleges and universities.

Wentworth is listed at #3 on the list of top colleges and universities in the region for career preparation, according to a survey conducted by *The Wall Street Journal* and *Times Higher Education*. [wit.edu/rankings](http://wit.edu/rankings)





**COLLEGE OF ENGINEERING AND TECHNOLOGY**

Biological Engineering • Biomedical Engineering • Civil Engineering • Computer Engineering •  
Computer Information Systems • Computer Networking • Computer Science • Electrical Engineering •  
Electromechanical Engineering • Engineering – Interdisciplinary • Mechanical Engineering



**WENTWORTH**  
INSTITUTE OF TECHNOLOGY

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