



Northeastern University

Summary of Department

Jerome F. Hajjar

CDM Smith Professor and Department Chair

*Department of Civil and Environmental Engineering
400 Snell Engineering Center, 360 Huntington Avenue
Northeastern University, Boston, Massachusetts 02115*

**Department of Civil
and Environmental
Engineering**

400 Snell Engineering
Center
360 Huntington Ave
Boston, MA 02115

617.373.2444
fax 617.373.4419

civ.neu.edu

April 2020

Over the last ten years since 2010, Northeastern University has been on a trajectory of growth and enhanced impact in its research program and its undergraduate and graduate programs. The Department of Civil and Environmental Engineering (CEE) has been at the heart of this trajectory. This document summarizes activity within the department.

Faculty

The Department of Civil and Environmental Engineering has more than doubled the size of its tenured/tenure-track faculty and more than tripled the size of its graduate program since 2010. The Department has grown from 14 tenured/tenure-track faculty and 1 non-tenure track faculty, and 1 cooperative education faculty in 2010 to 31 tenured/tenure-track faculty and 3 non-tenure track faculty, 4 cooperative education faculty, plus three Gateway faculty, who teach first-year engineering students, who have backgrounds in civil and environmental engineering. Of the tenured and tenure-track faculty hired, seven have cross-college appointments with departments in other departments, including the Department of Marine and Environmental Sciences in coastal sustainability, and the School of Architecture in sustainable building systems, thus facilitating interdisciplinarity within the program. Most of the faculty also have affiliated appointments in other departments across the university. In addition, the department has 14 affiliated faculty from other departments at the university.

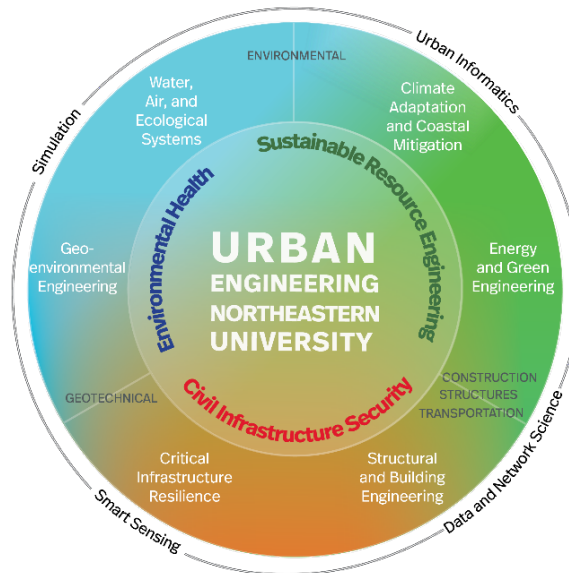
Research

The department has doubled its research expenditures since 2010, from approximately \$4.5M to approximately \$9M, with research funding totaling approximately \$60M. Many of the strengths and directions in the department are informed by the departmental interdisciplinary research and education thrusts. As seen in the figure, the department has a range of teaching and research strengths,



Northeastern University

anchored by several multi-disciplinary, multi-institutional centers and programs. Building on current strengths and expanding into new and vital areas, three overarching research and education thrusts include Environmental Health, Civil Infrastructure Security, and Sustainable Resource Engineering, with a broad focus on Urban Engineering. Subthemes and disciplinary concentrations underpin these interdisciplinary thrusts. The research and education in the department is driven through enabling technologies, including Simulation (both computational and experimental), Smart Sensing, and Data and Network Science, and Urban Informatics. The department faculty thus have excellent core expertise in concentrations of civil and environmental engineering, while also having an interdisciplinary network of interactions across the department and university.



Student Population

Since 2010, the Ph.D. student population in the department has more than doubled, and the full-time M.S. population has approximately quadrupled. During this time period, the graduate student population has increased from approximately 30 Ph.D. students, 40 full-time M.S. students, and 30 part-time M.S. students in 2010 to approximately 70 Ph.D. students, 160 full-time M.S. students, and 30 part-time M.S. students in 2020. The department undergraduate program has stayed approximately steady at around 400 students, one of the largest if not the largest enrollment at an R1 private institution in civil and environmental engineering in the country. Women and underrepresented minority populations have grown significantly to represent approximately 40% of the student population.

Degree Programs and Curriculum

Since 2010, the department has initiated several new degrees and over thirty new courses, greatly expanding the disciplinary and interdisciplinary breadth and depth in the curriculum at both the undergraduate and graduate levels. New degree programs include a B.S. in Environmental Engineering (ABET-accredited), an M.S.



Northeastern University

in Environmental Engineering, an M.S. in Sustainable Building Systems, and an M.S. in Engineering and Public Policy. The department has restructured the former Environmental Engineering Concentration within the M.S. in Civil Engineering to be Water, Environmental and Coastal Systems, with a strong thrust in the important field of coastal engineering. In Fall 2020, the department initiates will start M.S. and Ph.D. degrees in Civil Engineering with Concentration in Data and Systems. The department has also started new combined majors, with a B.S. in Civil Engineering and Architectural Studies, a B.S. in Environmental Engineering and Landscape Architecture, and a B.S. in Environmental Engineering and Health Sciences. Up to 25% of the entering freshmen are expressing interest in combined majors.

Department Infrastructure

The department has grown its space by over 10,000 square feet since 2010, and dramatically increased its funding support for a variety of faculty and student programs. To support these programs, the department has initiated a graduate fellowship program, including several fellowships from new donor endowments, a seminar program that brings in top researchers and practitioners from around the world, departmental awards and support funds for faculty and students, and related activities. In addition, the department has had a significant increase in space, with new and renovated research and teaching laboratories across the department concentrations. New laboratories include the Laboratory for Structural Testing of Resilient and Sustainable Systems (STReSS Laboratory, a full-scale structural testing laboratory; the Environmental Organic Chemistry Laboratory; the Environmental Sensors Laboratory; the Environmental Ecosystems Laboratory; and the Coastal Hazard Assessment, Mitigation, and Prediction (CHAMP) Laboratory, along with several others. The Industrial Advisory Board of the department has provided significant support and advice, with its activities anchored in a yearly program, CEE Industry Leadership Night, at which approximately 100 top industry leaders, including alumni and friends, return to campus to hear a distinguished speaker and learn about the department; prior speakers have included the Massachusetts Secretary of Transportation.

Rankings

Over the last decade, the department has risen in the graduate program rankings, with the increase being larger than any other top 50 program in the country. The Civil Engineering program has increased in rank from 48 in 2010 to 27 in 2020, with its score increasing steadily from 2.7 to 3.3. The Environmental Engineering program has increased in rank from 61 in 2010 to 31 in 2020, with its score increasing from 2.4 to 3.1. The figures below highlight the rankings and associated scores from U.S. News and World Report.



Northeastern University

