MISSION
The Center for STEM Education at Northeastern University seeks to build and support a community of educators, researchers, and students with the collective goal of strengthening the K-20 STEM (Science, Technology, Engineering, and Mathematics) educational ecosystem.

Our Vision

• To build, support and sustain a community of individual, institutional and organizational support in STEM engagement, enrichment and persistence.

• To impact advancement in STEM education through expanded collaboration, mentoring and training to increase access and diversity in STEM.

• To increase student involvement with STEM subjects and careers by designing, implementing and supporting academic and extracurricular programs in STEM fields.
BROADER IMPACT K-12 INITIATIVES

K-12 STEM Field Trips
STEM Field Trips are offered throughout the academic year for upper elementary and middle school students. Teachers bring their students to Northeastern’s campus for a day of STEM lessons and activities, hosted by the Center. Assisted by our undergraduate and graduate students, these offerings provide an early college experience and engineering exploration. Approximately 1500 students annually spend a full day on our campus supported by a cohort of 90+ undergraduate students.

NUTRONS - First Robotics Team seeks to inspire young people to be leaders by engaging them in mentor-based learning experiences that build STEM skills and inspire innovation and self-confidence. NUTRON high school students mentor and train 40 Lego Robotics Teams, 3 Middle School Teams, and have given technical seminars to help over 80 high school teams in New England.

Summer STEM Programs
The Center for STEM currently offers four summer programs for middle and high school students. We reach approximately 120 students annually through these initiatives. Approximately 1200 students to date have participated in one of our summer program offerings. Each offered free of charge to program participants.

NUSSP The Northeastern University Summer STEM program is two-week academic day program that takes an active role in shaping STEM education in students entering grades 6, 7 and 8. It seeks to improve students’ mathematics/science skills, introduce them to college life, and stimulate their interest in science and engineering as potential career paths.

GE Girls provides rising 7th and 8th grade girls from Boston the opportunity to engage in a variety of STEM activities, meet practicing scientists and engineers, and visit a number of GE facilities in greater Boston.

Imagining the Future of Transportation Program IFTP is a free, two-week, project based engineering experience for rising 9th and 10th grade students. The program introduces students to real-world transportation-focused research, and facilitates students’ understanding and application of STEM subjects.

Young Scholars Program The Young Scholars Program offers future scientists and engineers a unique opportunity for a hands-on, paid, research experience while still in high school. The program is open to Boston area applicants who have completed either their sophomore or junior year of high school.

RET - Research Experiences for Teachers Summer Research Experience for Secondary STEM teachers and Community College faculty.

CURRENT AFFILIATED GRANT EFFORTS

S-POWER
The Student Pathways Opening World Energy Resources (S-POWER) program is a five year NSF S-STEM initiative that seeks to increase workforce diversity in STEM fields and the energy sector. The program will provide transfer scholarships for up to 160 undergraduate and graduate students from Clark Atlanta University, Hampton University, Mass Bay, Middlesex and Northern Essex Community Colleges. (NSF #1564653 P.I. B. Lehman, Co-PI, C. Duggan, R. Harris, M. Minus)

TRANSFORM
Northeastern University and MassBay Community College are collaboratively implementing an innovative TRANSFORM model to retool the skill set of liberal arts college graduates to prepare them for careers in manufacturing. (NSF #1407160 P.I. I. Zeid, Co-PI, C. Duggan, S. Kamarthi)

REU - Data Driven Discovery
The NSF REU-D3 program provides a multi-disciplinary Research Experience for rising sophomore undergraduates, offer an 10-week summer-based experience in computer science/engineering laboratories. The program allows for work on both fundamental and applied data-driven problems, focused on machine learning techniques, data analytics, and computational technologies. (NSF #1559894 P.I. D. Kaeli)

PAST PROGRAMS

CAPSULE
A collaboration with the Museum of Science and the Boston Public Schools to develop a model for the integration and implementation of an engineering design project-based high school STEM curricula within urban school districts. (NSF # 0833636) Hands-On, Minds-On: Bringing Engineering Design to High School Classrooms (Resulting film)

NSF STEP-UP
A multi-year STEM – University Partnership that sought to increase the number of students receiving degrees in STEM (science, technology, engineering, mathematics) disciplines. The program included STEM students from Northeastern University and collaborating Community Colleges (CC), with a special focus on recruiting and retaining traditionally underrepresented students in STEM studies. (NSF #0653090)