and participation in the activities of the award-winning student chapter of the American Society of Civil Engineers help students meet this goal.

The civil engineering program is designed to provide students with a broad education appropriate for a variety of career choices and lifelong learning. Experience tells us that civil engineering graduates will enter almost every field imaginable. The knowledge and skills acquired—understanding science, critical thinking, effective communication, and understanding the social context, among them—form an excellent foundation for a host of careers, as well as for a fulfilling life outside the world of work. The civil engineering program has been designed with five general electives that permit students to explore or acquire further depth in other fields of interest. Students can use these electives to earn a minor in business, architectural history, music, computer science, or any number of other fields.

The co-op program parallels the academic program in level of responsibility and sophistication. A beginning job might involve layout at a construction site or laboratory testing; in senior-level co-op assignments, students are often working alongside engineers on design teams.

BSCE—Bachelor of Science in Civil Engineering

MATHEMATICS/SCIENCE REQUIREMENT
Complete 34 semester hours in mathematics and science as indicated below.

Required Mathematics/Science
Complete each of the following courses, with corresponding labs, as indicated:

- CHEM 1151 General Chemistry for Engineers 4 SH
- or CHEM 1211 General Chemistry 1 4 SH
- or CHEM 1214 General Chemistry 2 4 SH
- MATH 1341 Calculus 1 for Science and Engineering 4 SH
- MATH 1342 Calculus 2 for Science and Engineering 4 SH
- MATH 2321 Calculus 3 for Science and Engineering 4 SH
- MATH 2341 Differential Equations and Linear Algebra for Engineering 4 SH
- PHYS 1151 Physics for Engineering 1 4 SH
- with PHYS 1152 Lab for PHYS 1151 1 SH
- or PHYS 1161 Physics 1 4 SH
- with PHYS 1162 Lab for PHYS 1161 1 SH
- PHYS 1155 Physics for Engineering 2 4 SH
- with PHYS 1156 Lab for PHYS 1155 1 SH
- or PHYS 1165 Physics 2 4 SH
- with PHYS 1166 Lab for PHYS 1165 1 SH

Further Credit
3 semester hours from the following course count toward the mathematics/science requirement:

- CIVE 3464 Probability and Engineering Economy 4 SH for Civil Engineering
NORTHEASTERN UNIVERSITY

1 semester hour from the following course counts toward the mathematics/science requirement:

GE 1111 Engineering Problem Solving and Computation 4 SH

ENGINEERING REQUIREMENT
Complete 57 semester hours in engineering as indicated below.

Required Engineering
Complete each of the following courses, with corresponding labs, as indicated:

CIVE 2221 Statics and Strength of Materials 4 SH
CIVE 2260 Civil Engineering Materials 3 SH
with CIVE 2261 Materials and Measurements Lab 2 SH
CIVE 2320 Structural Analysis 1 4 SH
CIVE 2324 Reinforced Concrete Design 4 SH
CIVE 2331 Fluid Mechanics 4 SH
CIVE 2334 Environmental Engineering 1 4 SH
CIVE 2340 Soil Mechanics 4 SH
with CIVE 2341 Lab for CIVE 2340 1 SH

Senior Design Project
Complete one of the following courses:

CIVE 4765 Senior Design Project—Environmental 5 SH
CIVE 4766 Senior Design Project—Geotechnical 5 SH
CIVE 4767 Senior Design Project—Structural 5 SH
CIVE 4768 Senior Design Project—Transportation 5 SH

Civil Engineering Project Elective
Complete one of the following courses:

CIVE 4536 Hydrologic Engineering 4 SH
CIVE 4542 Foundation Engineering 4 SH
CIVE 4554 Highway Engineering 4 SH

Civil Engineering Technical Electives
Complete 12 semester hours from the following list:

CIVE 3425 Steel Design 4 SH
CIVE 3522 Structural Analysis 2 4 SH
CIVE 4534 Environmental Engineering 2 3 SH
CIVE 4536 Hydrologic Engineering 4 SH
CIVE 4542 Foundation Engineering 4 SH
CIVE 4554 Highway Engineering 4 SH
CIVE 4556 Traffic Engineering 4 SH
CIVE 4566 Sustainable Design of Buildings and Urban Transportation Systems: U.S./European Perspectives 4 SH
CIVE 4575 Construction Management 3 SH
CIVE 5321 Geoenvironmental Engineering 4 SH

Further Credit
3 semester hours from the following course count toward the engineering requirement:

GE 1110 Engineering Design 4 SH

2 semester hours from the following course count toward the engineering requirement:

GE 1111 Engineering Problem Solving and Computation 4 SH

1 semester hour from the following course counts toward the engineering requirement:

CIVE 3464 Probability and Engineering Economy 4 SH for Civil Engineering

PROFESSIONAL DEVELOPMENT REQUIREMENT
Complete 5 semester hours in professional development as indicated below.

Professional Development
Complete the following three courses:

GE 1000 Introduction to the Study of Engineering 1 SH
CIVE 2000 Introduction to Engineering Co-op Education 1 SH
CIVE 3000 Professional Issues in Engineering 1 SH

Further Credit
1 semester hour from each of the following courses counts toward the professional development requirement:

GE 1110 Engineering Design 4 SH
GE 1111 Engineering Problem Solving and Computation 4 SH

ADDITIONAL NU CORE COURSES/SCIENCE ELECTIVE
Complete 20 semester hours in NU Core course work and science elective as indicated below.

Writing
Complete the following two courses with a grade of C or higher in each course:

ENGL 1111 College Writing 4 SH
ENGL 3302 Advanced Writing in the Technical Professions 4 SH

Arts/Humanities Level 1
Complete 4 semester hours from the NU Core arts/humanities level 1 domain, as described on page 26.

Social Science Level 1—Macroeconomics or Microeconomics
Complete one of the following courses, thus satisfying the NU Core social science level 1 domain requirement:

ECON 1115 Principles of Macroeconomics 4 SH
ECON 1116 Principles of Microeconomics 4 SH

Science Elective
Complete one of the following courses:

BIOL 1111 General Biology 1 4 SH
BIOL 1121 Basic Microbiology 4 SH
BIOL 1151 Introduction to Marine Biology 4 SH
CHEM 2311 Organic Chemistry 1 4 SH
CHEM 2321 Analytical Chemistry 4 SH
CHEM 3401 Physical Chemistry 1 4 SH
ENVR 1200 Dynamic Earth 4 SH
ENVR 2310 Earth Materials 4 SH
ENVR 3302 Introduction to Remote Sensing 4 SH
ENVR 3400 Field Geology 4 SH
ENVR 4505 Wetlands 4 SH
ENVR 5260 Geographical Information Systems 4 SH
ENVR 5280  Groundwater Modeling  4 SH  
ENVR 5282  Groundwater Geochemistry  4 SH  
ENVR 5290  Engineering Geology  4 SH  
PHYS 2303  Modern Physics  4 SH  
PHYS 3601  Classical Dynamics  4 SH  
PHYS 3602  Electricity and Magnetism  4 SH

GENERAL ELECTIVES
Complete five 4-SH-equivalent academic, nonremedial, 
nonrepetitive courses.

RESIDENCY REQUIREMENT
32 of the final 40 semester hours must be taken at Northeastern 
University.

MAJOR GPA REQUIREMENT
2.000 minimum GPA required in CIVE courses

NU CORE REQUIREMENTS
See page 26 for requirement list.

GENERAL ELECTIVES
Additional courses taken beyond college and major course 
requirements to satisfy graduation credit requirements.

COOPERATIVE EDUCATION

UNIVERSITY-WIDE REQUIREMENTS
135 total semester hours required
Minimum 2.000 GPA required