

CORE CURRICULUM

NYU Tandon School of Engineering's core curriculum is designed to provide all students with a solid education in the liberal arts, mathematics, basic sciences, and their major area of study. The goals of the core curriculum are to build students' critical, analytical, and communication skills; to build a strong foundation of knowledge; to introduce students to their major field of study; to expose students to other fields; and to prepare students for lives as responsible and engaged citizens. The core curriculum includes three areas of inquiry:

1. text, communication and social thought
2. quantitative and scientific reasoning
3. innovation and problem solving

Engineering Majors: Areas of Inquiry

Area 1: Texts, Communication and Social Thought (24 Credits)

- EXPOS-UA 1 Writing The Essay; and EXPOS-UA 2 THE ADVANCED COLLEGE ESSAY
- Humanities and social science electives

Area 2: Quantitative and Scientific Reasoning (Minimum of 34 Credits)

- Mathematics: Every engineering student must complete a **minimum** of 16 credits of study in mathematics. The following mathematics courses are required of all engineering students:

Course	Title	Credits
MA-UY 1024	Calculus I for Engineers (or equivalent)	4
MA-UY 1124	Calculus II for Engineers (or equivalent)	4
MA-UY 2034	Linear Algebra and Differential Equations	4

- All engineering majors require a minimum of an additional 4 credits of mathematics coursework with required courses varying by major
- Physics, Chemistry: The basic science core consists of **minimum** of 15 credits of study in the critical areas of chemistry and physics with required courses varying by major.

Course	Title	Credits
PH-UY 1013	MECHANICS	3
PH-UY 2023	ELECTRICITY, MAGNETISM, & FLUIDS	3
PH-UY 2121	General Physics Laboratory I	1

- Some engineering majors require additional coursework in the basic sciences. Refer to the List of Academic Programs and Curricula (<https://bulletins.nyu.edu/undergraduate/engineering/programs/>) for specific degree requirements for each major.

Area 3: Innovation and Problem Solving (9-10 Credits)

Course	Title	Credits
EG-UY 1004	Introduction to Engineering and Design	4
CS-UY 1113	PROBLEM SOLVING AND PROGRAMMING I	3
or CS-UY 1114	INTRO TO PROGRAMMING & PROBLEM SOLVING	

- Introduction to Major

Non-Engineering Majors: Areas of Inquiry

Area 1: Texts, Communication and Social Thought (24 Credits)

- EXPOS-UA 1 Writing The Essay; and EXPOS-UA 2 THE ADVANCED COLLEGE ESSAY
- Humanities and social science electives

Area 2: Quantitative and Scientific Reasoning (Requirement Varies)

- Mathematics
- Physics, Chemistry, Biology, or other natural science course

Area 3: Innovation and Problem Solving (Requirement Varies)

Course	Title	Credits
EG-UY 1004	Introduction to Engineering and Design	4
CS-UY 1113	PROBLEM SOLVING AND PROGRAMMING I	3
or CS-UY 1114	INTRO TO PROGRAMMING & PROBLEM SOLVING	

- Introduction to Major

The New York State Education Department (NYSED) requires undergraduate students to complete a minimum of 60 credits in liberal arts and sciences for the Bachelor of Science degree. These liberal arts and sciences courses constitute a foundation or "general education" in the humanities, natural sciences and mathematics, and social sciences. These courses are intended to provide a basis of knowledge outside of specified occupational or professional objectives; these courses are not intended to emphasize the development of skills in areas such as technology or computer programming. All undergraduate majors at NYU Tandon School of Engineering fulfill the NYSED 60 credit liberal arts and sciences requirement through courses in expository writing, humanities and social sciences, mathematics, and science (areas 2 and 3, above).