

GENERAL ENGINEERING (BS)

CIP: 14.0101

Program Description

The General Engineering program allows students to approach engineering in an integrated manner that cuts across traditional boundaries of the profession and practice. The program provides a balance between breadth across the traditional engineering disciplines and depth in a thematic multi-disciplinary area.

The thematic areas currently emphasized correspond to research themes within the division:

- Cyber Security
- Robotics
- Urban Systems
- Environmental Sustainability
- BioMedical and Health Systems

Students are encouraged to choose a specialization in one of the thematic areas. The engineering courses in the program related to the specialization consist of some required courses that explore the broad interdisciplinary basis of the area, followed by electives that provide depth in an aspect of the specialization.

NYU Abu Dhabi offers six engineering degree programs: General Engineering, Bioengineering, Civil Engineering, Computer Engineering, Electrical Engineering, and Mechanical Engineering.

Each program is designed to create technological leaders with a global perspective, a broad education, and the capacity to think creatively. The uniqueness of the program lies in the integration of invention, innovation, and entrepreneurship into all phases of study. Students enjoy a learning environment conducive to creativity, which is at the heart of tomorrow's technological innovations and enterprises.

The General Engineering program at NYU Abu Dhabi is accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org> (<https://www.abet.org/>), and the Commission for Academic Accreditation (CAA). Graduates receive a Bachelor of Science degree.

Admissions

New York University's Office of Undergraduate Admissions supports the application process for all undergraduate programs at NYU. For additional information about undergraduate admissions, including application requirements, see How to Apply (<https://www.nyu.edu/admissions/undergraduate-admissions/how-to-apply.html>).

Program Requirements

Course	Title	Credits
General Education Requirements		
Colloquia		8
First-Year Seminar		4
Arts, Design, and Technology		4
Cultural Exploration Analysis		4
Data and Discovery		4
Structures of Thought and Society		4
January Term Courses (3 courses)		12

Science Courses

SCIEN-UH 1101:1104	Foundations of Science 1: Energy & Matter	4
SCIEN-UH 1201:1204		4
PHYS-UH 2115 or ENGR-UH 3130	Electricity and Magnetism for Engineers Quantitative Synthetic Biology	4

Mathematics Courses

MATH-UH 1012Q	Calculus with Applications to Science and Engineering	4
MATH-UH 1020	Multivariable Calculus with Applications to Science and Engineering	4
MATH-UH 1022	Linear Algebra	4
MATH-UH 1024	Fundamentals of Ordinary Differential Equations	2
ENGR-UH 2010Q	Probability and Statistics for Engineers	2
Select four credits of the following:		4
CS-UH 1002	Discrete Mathematics	
ENGR-UH 2025	Fundamentals of Discrete Math	
ENGR-UH 2026	Partial Differential Equations for Engineers	
ENGR-UH 2027	Introduction to Data Analysis for Engineers	

Engineering Common Courses

ENGR-UH 1000	Computer Programming for Engineers	4
ENGR-UH 1010	Engineering Ethics	1
ENGR-UH 1021J	Design and Innovation	2
ENGR-UH 2011	Engineering Statics	2
ENGR-UH 2012	Conservation Laws in Engineering	2
ENGR-UH 2013	Digital Logic	2
ENGR-UH 2017	Numerical Methods	2
ENGR-UH 2019	Circuits Fundamentals	2

Required Courses

ENGR-UH 3110	Instrumentation, Sensors, Actuators	4
ENGR-UH 3120	Engineering Materials	2

Electives

Select 30 credits of Engineering electives		30
--------------------------------------------	--	----

Capstone

ENGR-UH 4011	Senior Design Capstone Project I	2
ENGR-UH 4020	Senior Design Capstone Project II	4
Other Elective Credits		9

Total Credits **140**

Sample Plan of Study Learning Outcomes

Upon graduation, NYU Abu Dhabi General Engineering students will possess:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety,

and welfare, as well as global, cultural, social, environmental, and economic factors

3. An ability to communicate effectively with a range of audiences
4. An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Policies

NYU Policies

University-wide policies can be found on the New York University Policy pages (<https://bulletins.nyu.edu/nyu/policies/>).

NYU Abu Dhabi Policies

A full list of relevant policies can be found on NYU Abu Dhabi's undergraduate academic policies page (<https://bulletins.nyu.edu/undergraduate/abu-dhabi/academic-policies/>).