

Engineering Science (AS)

The Associate in Science in Engineering Science program prepares students for continuation in the BS program in Engineering Science at the College of Staten Island or in engineering programs at other institutions. There are two specializations offered: Mechanical and Electrical.

Pathways Common Core: 30 credits

Pathways Required Core: 12 credits

English Composition (RECR) 6 credits

ENG 111 Introduction to College Writing 3 credits

ENG 151 College Writing 3 credits

Mathematical and Quantitative Reasoning (RMQR) 3 or more credits

Students are required to complete the following course:

MTH 231 Analytic Geometry and Calculus I* 3 credits

Life and Physical Sciences (RLPR) 3 or more credits

Students are required to complete the following course:

PHY 120 General Physics I* 3 credits

Pathways Flexible Core: 18 credits

Select 6 courses from the following five areas with no more than two courses from any discipline or interdisciplinary field. The five areas are:

1. U.S. Experience in its Diversity (FUSR) 3 credits

Students are required to complete the following course:

COR 100 United States: Issues, Ideas, and Institutions 3 credits

2. Scientific World (FSWR) 3 credits

Students are required to complete the following courses:

PHY 160 General Physics II* 3 credits

3. World Cultures and Global Issues (FWGR) 3 credits
4. Creative Expression (FCER) 3 credits
5. Individual and Society (FISR) 3 credits

*Also fulfills major requirements (total of 9 credits)

NOTE: Students may take courses in STEM areas of the Common Core (Mathematical and Quantitative Reasoning, Life and Physical Sciences, and Scientific World) that have 3 or more credits. This may result in students finishing their degree with more than the regular number of credits required.

CORE REQUIREMENTS: 33 CREDITS

ENS 100 Introduction to Engineering Science 2 credits

ENS 136 Computer-Aided Engineering 2 credits

ENS 220 Introduction to Computer Engineering 4 credits

ENS 221 Digital Electronics Laboratory 2 credits

CSC 270 Introduction to Scientific Computing 4 credits

PHY 120 General Physics I 3 credits

PHY 121 General Physics I Laboratory 1 credit

PHY 160 General Physics II 3 credits

PHY 161 General Physics II Laboratory 1 credit

MTH 229 Calculus Computer Laboratory 1 credit

MTH 231 Analytic Geometry and Calculus I 3 credits*

MTH 232 Analytic Geometry and Calculus II 3 credits

NOTE: * MTH 230 Calculus I with Pre-Calculus can be substituted for MTH 231 Analytic Geometry and Calculus I

Four credits chosen from the following:

CHM 141 General Chemistry I 3 credits

CHM 121 General Chemistry I Laboratory 1 credit

or

ECO 251 or ECO 285 Economics for Engineers 4 credits

or

ENS 362 Microprocessors 4 credits

Then choose specialization and take:

For Mechanical Specialization: 6 credits

ENS 110 Engineering Graphics 2 credits

ENS 310 Thermodynamics 4 credits

For Electrical Specialization: 6 credits

ENS 241 Electrical and Electronic Circuits 4 credits

ENS 249 Basic Measurements Laboratory 2 credits

Total Credits Required: 60

Note: This program has received a waiver to specify particular courses students must take in STEM areas of the Common Core (Mathematical and Quantitative Reasoning, Life and Physical Sciences, and Scientific World). If students take different courses in these areas, they will be certified as having completed the Common Core area, but it may not be possible for them to finish their degree program within the regular number of credits.