

PRE-MAJOR ENGINEERING (A1040D)

This program prepares the student to transfer courses or the degree in its entirety to a four-year senior institution. This Associate in Science program is specifically designed for students who wish to earn a baccalaureate degree in Engineering.

General Education Core (44 SHC) *Forty-four semester hours of credit in general education core courses are required as outlined in the NCCCS Curriculum Standards for Associate in Science degree programs. The general education core includes study in the areas of humanities and fine arts, social and behavioral sciences, natural sciences and mathematics, and English composition.

***Students who complete the 44-hour general education core are eligible to receive the GENERAL EDUCATION DIPLOMA IN SCIENCE (D10400).**

ENGLISH COMPOSITION (6 SHC)

Two English composition courses are required:

- English 111, Expository Writing (3 SHC), is required as the first composition course.
- A second composition course must be selected from the following:
 - ENG 112 Argument-Based Research (3 SHC)
 - ENG 113 Literature-Based Research (3 SHC)
 - ENG 114 Professional Research and Reporting (3 SHC)

HUMANITIES/FINE ARTS (9 SHC)

Three courses from three discipline areas are required.

- One course must be a literature course.
 - ENG 231, 232, 241, 242, 261, 262
- One course must be a fine arts course (ART, DRA, or MUS).
- One additional general education core course from the following discipline areas is required: art, communication, drama, foreign languages, interdisciplinary humanities, music, philosophy, and religion.
 - ART 111, 114, 115
 - COM 110, 120, 231 (3 hours only)
 - DRA 111, 112, 211, 212
 - FRE 111, 112, 211, 212
 - HUM 130, 160, 211, 212
 - MUS 110, 210, 213
 - PHI 215
 - REL 112, 211, 212, 221
 - SPA 111, 112, 211, 212

A foreign language course is recommended.

SOCIAL/BEHAVIORAL SCIENCES (9 SHC)

Three courses from three discipline areas are required.

- One of the following history courses is required:
HIS 115, 121, 122, 131, 132
HIS 121 or 122 is recommended.
- One of the following courses is required:
ECO 251 Principles of Microeconomics (3 SHC)
ECO 252 Principles of Macroeconomics (3 SHC)
- One additional general education core course from the following discipline areas is required: anthropology, geography, political science, psychology, and sociology.
ANT 210
GEO 111, 112, 130
POL 110, 120, 210, 220
PSY 150, 241, 281
SOC 210, 213, 220, 225, 240

NATURAL SCIENCES/MATHEMATICS (20 SHC)

Natural Sciences (12 SHC):

- The following courses are required:
CHM 151 General Chemistry I (4 SHC)
PHY 251 General Physics I (4 SHC)
PHY 252 General Physics II (4 SHC)

Mathematics (8 SHC):

- Two courses are required:
MAT 271 Calculus I (4 SHC)
MAT 272 Calculus II (4 SHC)

OTHER REQUIRED HOURS (21 SHC)

- The following courses are required: (11 SHC)
ACA 111 College Student Success (1 SHC)
CIS 115 Introduction to Programming and Logic (3 SHC)
MAT 273 Calculus III (4 SHC)
MAT 285 Differential Equations (3 SHC)
CHM 152 General Chemistry II (4SHC)
- One of the following courses is required: (3 SHC)
CSC 134 C++ Programming (3 SHC) *or*
CSC 148 JAVA Programming (3 SHC)
- 3 additional hours of approved college transfer credit are needed to complete the required sixty-five semester hours credit.
- PED 110 Fit and Well for Life is recommended.

TOTAL SEMESTER HOURS CREDIT (SHC) IN PROGRAM: 65

PRE-MAJOR ENGINEERING CURRICULUM MODEL

Students entering the Pre-Major Engineering Associate in Science Degree Program must demonstrate competency in or complete the prerequisite(s) (MAT 172 or 175) required for MAT 271 Calculus I. The required physics, calculus, and computer science courses are generally offered only during the semester in the schedule provided below.

	Hours Per Week		
	Class	Lab	Credit
FALL SEMESTER (1st Year)			
ACA 111 College Student Success	1	0	1
CHM 151 General Chemistry I	3	3	4
ENG 111 Expository Writing	3	0	3
MAT 271 Calculus I	3	2	4
Fine Arts Course	3	0	3
Social Sciences Elective	3	0	3
(or take in summer)	16	5	18
SPRING SEMESTER (1st Year)			
CIS 115 Introduction to Programming and Logic	2	2	3
ENG 112 Argument Based Research OR	3	0	3
ENG 113 Literature-Based Research OR			
ENG 114 Professional Research and Reporting			
MAT 272 Calculus II	3	2	4
PHY 251 General Physics I	3	3	4
Humanities Elective	3	0	3
(or take in summer)	14	7	17
FALL SEMESTER (2nd Year)			
CSC 134 C++ Programming*	2	3	3
MAT 273 Calculus III	3	2	4
PHY 252 General Physics II	3	3	4
History Course	3	0	3
	11	8	14
SPRING SEMESTER (2nd Year)			
CHM 152 General Chemistry II	3	3	4
ECO 251 Principles of Microeconomics	3	0	3
MAT 285 Differential Equations	3	0	3
Literature Course	3	0	3
Elective Course	3	0	3
	15	3	16
Total Semester Hours:			65

*Some universities require CSC 148 Java Programming instead of CSC 134 C++ Programming for certain types of engineering degrees. Students should consult an academic counselor and, if necessary, take CSC 148 in the spring of their second year and take literature in the fall of the second year.

Students must meet the receiving university's foreign language and/or health and physical education requirements, if applicable, prior to or after transfer to the senior institution.

APPLICATION TO A UNIVERSITY

Admission application deadlines vary; students must meet the deadline for the university to which they plan to transfer. Upon successful completion of the associate degree, students who meet the requirements outlined in this pre-major articulation agreement will be eligible to be considered for admission as juniors to the universities offering the baccalaureate degree as listed at www.northcarolina.edu/content.php/aa/planning/traditional.htm. Students are encouraged to contact the senior institution to confirm degree offerings.

ADMISSION TO THE MAJOR

Grade point average requirements vary and admission is competitive across the several programs in Engineering. In choosing courses to meet both general education core requirements and other required hours, students should seek advice based on the program and track into which they desire to transfer.