

Pre-Major Associate in Science Articulation Agreement: Engineering (A1040D)

This template has been developed by university and community college faculty as a blueprint for guiding community colleges in developing programs for students who intend to major in Engineering. Students who follow this course of study and who meet the requirements for admission to the university are eligible to apply for admission to the major with junior standing.

General Education Core (44 SHC)* Students must complete 44 SHC in general education core requirements outlined on the NCCCS Curriculum Standards for Associate in Arts and 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.

English Composition (6 SHC) *Two English composition courses are required.*
ENG 111, Expository Writing (3 SHC) is required as the first composition course.
One of the following is required to satisfy the second English composition requirement:
 ENG 112 Argument-Based Research (3 SHC) *or*
 ENG 113 Literature-Based Research (3 SHC) *or*
 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.
Two additional courses from the following discipline areas are required: art, drama, dance, foreign languages, interdisciplinary humanities, literature, music, philosophy, and religion.

Social/Behavioral Sciences (9 SHC) *Three courses from three discipline areas are required.*
One course must be a history course.
Two additional courses from the following discipline areas are required:
anthropology, geography, history, political science, psychology, and sociology.

One of the following courses is recommended:
 ECO 251 Principles of Microeconomics (3 SHC) *or*
 ECO 252 Principles of Macroeconomics (3 SHC)

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):
The following courses are required.
 MAT 271 Calculus I (4 SHC)
 MAT 272 Calculus II (4 SHC)

A college may award a diploma under the A1040D for completion of the entire general education core, as outlined, with a grade of "C" or better in each course.

Other Required Hours (20-21 SHC)* One semester hour of credit may be included in a sixty-five semester hour credit associate in science program. The transfer of the 65th hour is not guaranteed. A minimum of 20 SHC of college transfer courses in general education, pre-major or elective courses are required.

The following courses are required (7 SHC):

MAT 273	Calculus III (4 SHC)
MAT 285	Differential Equations (3 SHC)

One of the following courses is required (3 SHC):

CSC 134	C++ Programming (3 SHC) <i>or</i>
CSC 136	Fortran Programming (3 SHC) <i>or</i>
CSC 151	JAVA Programming (3 SHC)

Students must select one of the following courses (3-4 SHC) to complete the program of study, depending on the engineering major selected and the university to which the student plans to transfer:

CHM 152	General Chemistry II (4 SHC)
DFT 170	Engineering Graphics (3 SHC)
EGR 220	Engineering Statics (3 SHC)

A minimum of 4 SHC of college transfer courses in mathematics, natural sciences or computer science is also required if CHM 152 is not selected.

Three (3) to six (6) hours of additional approved college transfer courses are required.

Total Semester Hours Credit (SHC) in Program: 64-65

* **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.**

** **3 SHC in Speech/Communication may be substituted for 3 SHC in Humanities/Fine Arts. Speech/Communication may not substitute for the literature requirement.**

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.