

PROPOSED

Engineering (A1040D)
Associate in Science Pre-Major

Under the Comprehensive Articulation Agreement and the Independent Comprehensive Articulation Agreement, 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 successfully complete 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.

All colleges will not offer all pre-major programs, and course selections may vary. Check college catalogs for course and program offerings.

<p>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.</p>										
<p>English Composition (6 SHC) <i>Two English composition courses are required.</i> 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:</p> <table style="margin-left: 40px;"> <tr> <td>ENG 112</td> <td>Argument-Based Research (3 SHC) <i>or</i></td> </tr> <tr> <td>ENG 113</td> <td>Literature-Based Research (3 SHC) <i>or</i></td> </tr> <tr> <td>ENG 114</td> <td>Professional Research and Reporting (3 SHC)</td> </tr> </table>	ENG 112	Argument-Based Research (3 SHC) <i>or</i>	ENG 113	Literature-Based Research (3 SHC) <i>or</i>	ENG 114	Professional Research and Reporting (3 SHC)				
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ENG 113	Literature-Based Research (3 SHC) <i>or</i>									
ENG 114	Professional Research and Reporting (3 SHC)									
<p>Humanities/Fine Arts (9 SHC**) <i>Three courses from three discipline areas are required.</i> 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.</p>										
<p>Social/Behavioral Sciences (9 SHC) <i>Three courses from three discipline areas are required.</i> 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.</p> <p>One of the following courses is recommended:</p> <table style="margin-left: 40px;"> <tr> <td>ECO 251</td> <td>Principles of Microeconomics (3 SHC) <i>or</i></td> </tr> <tr> <td>ECO 252</td> <td>Principles of Macroeconomics (3 SHC)</td> </tr> </table>	ECO 251	Principles of Microeconomics (3 SHC) <i>or</i>	ECO 252	Principles of Macroeconomics (3 SHC)						
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ECO 252	Principles of Macroeconomics (3 SHC)									
<p>Natural Sciences/Mathematics (20 SHC) <i>Natural Sciences (12 SHC):</i> The following courses are required:</p> <table style="margin-left: 40px;"> <tr> <td>CHM 151</td> <td>General Chemistry I (4 SHC)</td> </tr> <tr> <td>PHY 251</td> <td>General Physics I (4 SHC)</td> </tr> <tr> <td>PHY 252</td> <td>General Physics II (4 SHC)</td> </tr> </table> <p><i>Mathematics (8 SHC):</i> The following courses are required.</p> <table style="margin-left: 40px;"> <tr> <td>MAT 271</td> <td>Calculus I (4 SHC)</td> </tr> <tr> <td>MAT 272</td> <td>Calculus II (4 SHC)</td> </tr> </table>	CHM 151	General Chemistry I (4 SHC)	PHY 251	General Physics I (4 SHC)	PHY 252	General Physics II (4 SHC)	MAT 271	Calculus I (4 SHC)	MAT 272	Calculus II (4 SHC)
CHM 151	General Chemistry I (4 SHC)									
PHY 251	General Physics I (4 SHC)									
PHY 252	General Physics II (4 SHC)									
MAT 271	Calculus I (4 SHC)									
MAT 272	Calculus II (4 SHC)									
<p><i>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.</i></p>										

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BOG approved 04/11/97; SBCC approved 04/18/97; TAC amended 10/24/02; Proposed Revisions-TAC 11/07/03; SBCC approved 02/12/04; NCAC approved 12/01/04; revised 6/13/05; revised 02/03/06; revised 05/24/06; revised 11/17/06; TAC revised 05/23/07; TAC revised 09/26/07; TAC approved proposed revisions 2/19/10; SBCC revised _____

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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 is required.

The following course is required (4 SHC):
 MAT 273 Calculus III (4 SHC)

Select at least 10 SHC from the following list of courses. (Specific course selection will depend on the student's planned engineering major and the university to which the student plans to transfer.):

BIO 111	General Biology I (4 SHC)
BIO 175	General Microbiology (3 SHC) or BIO 275 Microbiology (4 SHC)
CHM 152	General Chemistry II (4 SHC)
CHM 251	Organic Chemistry I (4 SHC)
CIS 115	Intro to Prog & Logic (3 SHC)
CSC 134	C++ Programming (3 SHC)
CSC 136	Fortran Programming (3 SHC)
CSC 151	JAVA Programming (3 SHC)
DFT 170	Engineering Graphics (3 SHC)
EGR 120	Eng and Design Graphics (3 SHC)
EGR 150	Intro to Engineering (2 SHC)
EGR 213	Electric Circuits (4 SHC)
EGR 220	Engineering Statics (3 SHC)
EGR 225	Engineering Dynamics (3 SHC)
EGR 230	Engineering Materials (3 SHC)
MAT 280	Linear Algebra (3 SHC)
MAT 285	Differential Equations (3 SHC)

Additional approved college transfer courses are required to reach the minimum of 20 hours.

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 senior institution 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 signatory institutions offering the baccalaureate degree as listed at www.northcarolina.edu/content.php/aa/planning/traditional.htm or in the NC Independent Colleges and Universities Handbook which is available online at www.ncicu.org/publications. 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.

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