

ASSOCIATE IN ENGINEERING DEGREE

Program Code: A10500

The Associate in Engineering (AE) degree shall be granted for a planned program of study consisting of a minimum of 60 semester hours of credit (SHC) of courses. Within the degree program, the institution shall include opportunities for the achievement of competence in reading, writing, oral communication, fundamental mathematical skills, and basic computer use. The degree plan includes required general education and prerequisite courses that are acceptable to all state funded Bachelor of Engineering programs.

Students who follow the degree progression plan will meet the entrance requirements at all of the North Carolina public Bachelor of Science Engineering programs. Associate in Engineering graduates may then apply to any of these programs without taking additional and sometimes duplicative courses. Admission to engineering programs is highly competitive and admission is not guaranteed.

To be eligible for the transfer of credits under the AE to the Bachelor of Science in Engineering Articulation Agreement, community college graduates must obtain a grade of "C" or better in each course and an overall GPA of at least 2.5 on a 4.0 scale.

Course	Title	Hours
First Year		
Fall		
ENG-111	Writing and Inquiry	3
ACA-122	College Transfer Success	1
EGR-150	Introduction to Engineering	2
MAT-271	Calculus I	4
COM-231	Public Speaking	3
Pre-major Elective		3-4
Hours		16-17
Spring		
ENG-112	Writing and Research in the Disciplines	3
CHM-151	General Chemistry I	4
PHY-251	General Physics I	4
MAT-272	Calculus II	4
Hours		15
Second Year		
Fall		
Social/Behavioral Science Elective		3
DFT-170	Engineering Graphics	3
PHY-252	General Physics II	4
ECO-251	Principles of Microeconomics	3
Pre-major Elective		3-4
Hours		16-17
Spring		
MAT-273	Calculus III	4
EGR-220 or EGR-212	Engineering Statics or Logic System Design I	3
General Education Course		3-4
PHI-240	Introduction to Ethics	3
Hours		13-14
Total Hours		60-63

Note: EGR-212 Logic System Design I best fits students pursuing electrical or computer engineering (including computer science).

Code	Title	Hours
Available Social Science Electives:		
HIS-111	World Civilizations I	3
HIS-112	World Civilizations II	3
HIS-131	American History I	3
HIS-132	American History II	3
POL-120	American Government	3
PSY-150	General Psychology	3
SOC-210	Introduction to Sociology	3
Available General Education Courses:		
BIO-111	General Biology I (Required for Biomedical Engineering)	4
CHM-152	General Chemistry II (Required for Chemical Engineering)	4
COM-110	Introduction to Communication	3
ECO-252	Principles of Macroeconomics	3
HUM-110	Technology and Society	3
GEL-111	Geology	4

Available Pre-Major Electives

Code	Title	Hours
Mechanical/Civil Engineering:		
CSC-134	C++ Programming ¹	3
CSC-151	JAVA Programming ²	3
HUM-110	Technology and Society	3
MAT-280	Linear Algebra ³	3
MAT-285	Differential Equations ^{4,5}	3
Electrical/Computer Engineering:		
CSC-134	C++ Programming ²	3
CSC-151	JAVA Programming	3
HUM-110	Technology and Society	3
MAT-280	Linear Algebra ³	3
MAT-285	Differential Equations ⁵	3
Chemical/Biomedical Engineering:		
CHM-152	General Chemistry II ⁶	4
CHM-251	Organic Chemistry I ⁷	4
CSC-134	C++ Programming ²	3
CSC-151	JAVA Programming	3
MAT-280	Linear Algebra ³	3
MAT-285	Differential Equations ^{4,5}	3
HUM-110	Technology and Society	3

¹ NC State only accepts CSC-134 C++ Programming

² ECU will accept either CSC-134 C++ Programming or CSC-151 JAVA Programming

³ ECU requires both MAT-280 Linear Algebra and MAT-285 Differential Equations. Pre-requisites: MAT-271 Calculus I

⁴ NC State requires MAT-285 Differential Equations for Mechanical Engineering and Chemical Engineering

⁵ Pre-requisites: MAT-272 Calculus II

⁶ Pre-Requisites: CHM-151 General Chemistry I

⁷ Required for NC State Chemical Engineering. Pre-Requisites: CHM-152 General Chemistry II

MAT-263	Brief Calculus	4
MAT-271	Calculus I	4
MAT-272	Calculus II	4

Code	Title	Hours
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The following courses have been approved to satisfy the Comprehensive Articulation Agreement General Education (UGETC) requirement in **English Composition:**

ENG-111	Writing and Inquiry	3
ENG-112	Writing and Research in the Disciplines	3

The following courses have been approved to satisfy the Comprehensive Articulation Agreement UGETC requirement in **Humanities/Fine Arts:**

ART-111	Art Appreciation	3
ART-114	Art History Survey I	3
ART-115	Art History Survey II	3
COM-231	Public Speaking	3
ENG-231	American Literature I	3
ENG-232	American Literature II	3
MUS-110	Music Appreciation	3
MUS-112	Introduction to Jazz	3
PHI-215	Philosophical Issues	3
PHI-240	Introduction to Ethics	3

The following courses have been approved to satisfy the Comprehensive Articulation Agreement UGETC requirement in **Social/Behavioral Sciences:**

ECO-251	Principles of Microeconomics	3
ECO-252	Principles of Macroeconomics	3
HIS-111	World Civilizations I	3
HIS-112	World Civilizations II	3
HIS-131	American History I	3
HIS-132	American History II	3
POL-120	American Government	3
PSY-150	General Psychology	3
SOC-210	Introduction to Sociology	3

The following courses have been approved to satisfy the Comprehensive Articulation Agreement UGETC **Natural Sciences:**

BIO-110	Principles of Biology	4
BIO-111	General Biology I	4
BIO-112	General Biology II	4
CHM-151	General Chemistry I	4
CHM-152	General Chemistry II	4
GEL-111	Geology	4
PHY-110	Conceptual Physics	3
PHY-151	College Physics I	4
PHY-152	College Physics II	4
PHY-251	General Physics I	4
PHY-252	General Physics II	4

The following courses have been approved to satisfy the Comprehensive Articulation Agreement UGETC requirement in **Mathematics:**

MAT-143	Quantitative Literacy	3
MAT-152	Statistical Methods I	4
MAT-171	Precalculus Algebra	4
MAT-172	Precalculus Trigonometry	4

Transfer