

# PROGRAMS

## ASSOCIATE IN ENGINEERING

The Associate in Engineering degree is designed for students who wish to transfer to a state funded university with a Bachelor of Engineering program and earn a Bachelor of Science in Engineering. Baccalaureate Engineering Programs within the UNC system are offered at: East Carolina University, North Carolina Agricultural and Technical University, North Carolina State University, University of North Carolina at Charlotte, and Western Carolina University.

The Associate in Engineering shall be granted for a planned program of study consisting of a minimum of 60 and a maximum of 61 semester hours of college transfer 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. More specifically, students foster a greater understanding of reading comprehension, communication, and critical thinking as student learning outcomes.

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 Associate in Engineering to the Bachelor of Science in Engineering Articulation Agreement (A.E. to B.S.E. AA), A.E. 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.

### Associate Degree Program

Courses	Semester Hours
<b>GENERAL EDUCATION (45-46 SHC)*.....</b>	<b>45-46</b>

The general education courses include study in the areas of English composition; humanities and fine arts; social and behavioral sciences; natural sciences and mathematics.

**UNIVERSAL GENERAL EDUCATION TRANSFER COMPONENT (UGETC)** Courses that are not classified as UGETC are italicized

<b>English Composition (6 SHC) .....</b>	<b>6</b>
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Two English composition courses are required:

ENG-111 and ENG-112

<b>Humanities/Fine Arts and Communication (6 SHC) .....</b>	<b>6</b>
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Humanities: Choose one:

Literature (ENG-231, 232, 241, 242)

Philosophy (PHI-215, 240)

Fine Arts and Communication: Choose one:

Art (ART-111, 114, 115)

Communication (COM-231)

Music (MUS-110, 112)

**Social/Behavioral Sciences (6 SHC)..... 6**

One course required:

Economics (ECO-251)

Select second course from the following:

History (HIS-111, 112, 131, 132)

Political Science (POL-120)

Psychology (PSY-150)

Sociology (SOC-210)

**Mathematics (12 SHC)..... 12**

Calculus I (MAT-271) is the lowest level math course that will be accepted by the engineering programs for transfer as a math credit. Students who are not calculus-ready must take additional math courses.

Calculus (MAT-271, 272, 273) Note: MAT-273 is not a UGETC course.

**Natural Sciences (12 SHC)..... 12**

Take all of the following:

Chemistry (CHM-151)

Physics (PHY-251, 252)

**ADDITIONAL GENERAL EDUCATION HOURS (3-4 SHC)\* 3-4**

Select one course (not used elsewhere) from the following:

Biology (BIO-111)

Chemistry (CHM-152)\*\*

Communication (COM-110, 231)

Economics (ECO-252)

Geology (GEL-111)\*\*

Humanities (HUM-110)

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Philosophy (PHI-240)

**TOTAL GENERAL EDUCATION HOURS REQUIRED (45-46 SHC) 45-46**

**OTHER REQUIRED HOURS (15 SHC)..... 15**

**Academic Transition (1 SHC)**

The following course is required:

ACA-122 College Transfer Success..... 1

Students must complete ACA-122 within the first 30 hours of enrollment.

**Pre-major Elective (2 SHC)**

EGR-150 Introduction to Engineering..... 2

**Other General Education and Pre-major Elective Hours (12 SHC)**

Select 12 SHC from the following courses classified as pre-major, elective, or general education courses (not used elsewhere) within the Comprehensive Articulation Agreement. Students should choose courses appropriate to the specific university and engineering major requirements.

Biology (BIO-111)

Chemistry (CHM-152, 251, 252)\*\*

Communication (COM-110, 231)

Computer Science (CSC-134, 151)

Drafting (DFT-170)

Economics (ECO-252)

Engineering (EGR-220)

Geology (GEL-111)\*\*

Humanities (HUM-110)

Mathematics (MAT-285)

Physical Education (PED-110)

**TOTAL SEMESTER HOURS CREDIT (SHC) IN PROGRAM 60-61\*\*\***

\*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.

\*\*Students pursuing a 4-year Chemical Engineering degree will need CHM-251 and CHM-252. CHM-152 is a prerequisite to CHM-251.

\*\*Students pursuing a 4-year Civil Engineering degree will need GEL-111.

\*\*\*One semester hour of credit may be included in a 61 SHC associate in engineering program of study. The transfer of this hour is not guaranteed.

### Associate in Engineering Course Sequence Example

		Course Hours Per Week		Semester Hours
First Semester (Fall)		Class	Lab	Credit
ACA-122	College Transfer Success	0	2	1
ENG-111	Writing and Inquiry	3	0	3
MAT-271	Calculus I	3	2	4
CHM-151	General Chemistry I	3	3	4
EGR-150	Intro to Engineering	1	2	2
<b>Credit Hours</b>		<b>10</b>	<b>9</b>	<b>14</b>
Second Semester (Spring)				
ENG-112	Writing/Research in the Disc	3	0	3
MAT-272	Calculus II	3	2	4
ECO-251	Prin of Microeconomics	3	0	3
***	Humanities UGETC course	3	0	3
***	Additional Gen Ed Hours			3-4
<b>Credit Hours</b>		<b>12</b>	<b>2</b>	<b>16-17</b>
Third Semester (Fall)				
PHY-251	General Physics I	3	3	4
***	Soc/Beh Science UGETC course			3
***	Other Gen Ed/Pre-major Elective			3-4
***	Other Gen Ed/Pre-major Elective			3-4
***	Other Gen Ed/Pre-major Elective			4
<b>Credit Hours</b>		<b>3</b>	<b>3</b>	<b>17-19</b>
Fourth Semester (Spring)				
MAT-273	Calculus III	3	2	4
PHY-252	General Physics II	3	3	4
***	Fine Arts/Com UGETC course			3
***	Other Gen Ed/Pre-major Elective			2-4
<b>Credit Hours</b>		<b>6</b>	<b>5</b>	<b>13-15</b>
Total Required Minimum Semester Hours Credit				60

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