CENTRAL CAROLINA COMMUNITY COLLEGE

Science, Technology, Engineering & Math (STEM)

Program Planning Guide

Associate in Engineering, A10500

Program Length: 4 semesters
Program Sites: Lee Main Campus; selected courses available in Chatham and Harnett and via distance education
Career Pathway Options: Associate in Engineering Degree, Baccalaureate Degree at a Senior Institution

The Associate in Engineering degree shall be granted for a planned program of study consisting of a minimum of 60 semester hours of credit (SHC). Within the degree program students will have the opportunity to demonstrate problem solving ability, effective written communication skills and appropriate mathematical skills.

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 North Carolina public Bachelor of Engineering programs, as well as Campbell University. 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 Associates of Engineering program 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.

Specific course schedule sequences are available for students starting at different levels of MAT 271, Calculus I, readiness.

Suggested Course Schedule		**Class**	**Lab**	**Credits**	**Notes:**
1st Semester (fall)					
ENG 111	Writing and Inquiry	3	0	3	
CHM 151	General Chemistry I	3	3	4	
ECO 251	Principles of MIcroeconomics	3	0	3	
EGR 150	Introduction to Engineering	1	2	2	
ACA 122	College Transfer Success	0	2	1	
MAT 271 prerequisites or Humanities*		3	0	3	**MAT 271 prereq courses do not count towards the AE degree*
	Total Semester Hours	**13**	**7**	**16**	
2nd Semester (spring)					
ENG 112	Writing & Research in the Disciplines	3	0	3	
MAT 271**	Calculus I	3	2	4	
Fine Arts/Communications Requirement		3	0	3	
Social/Behavioral Science Requirement		3	0	3	
Pre-major Elective Course		3	3	4	
	Total Semester Hours	**15**	**5**	**17**	

Effective Term: 2024FA

***Note: MAT 171 and MAT 172 or their equivalents are prerequisites for MAT 271.*					
3rd Semester (summer)					
MAT 272	Calculus II	3	2	4	
PHY 251	General Physics	3	3	4	
Pre-major Elective Course		3	0	3	
Pre-major Elective Course		3	0	3	
	Total Semester Hours	**12**	**5**	**14**	
4th Semester (fall)					
MAT 273	Calculus III	3	2	4	
PHY 252	General Physics II	3	3	4	
Other General Education Requirement		3	0	3	
Pre-major Elective Course		3	0	3	
	Total Semester Hours	**12**	**5**	**14**	
Total Semester Hours Credit Required for Graduation: 60					

Course Requirements for Associate in Engineering

I. General Education Requirements

A. English Composition

1. ENG 111 Writing and Inquiry	3-0-3
2. ENG 112 Writing & Research in the Disciplines	3-0-3

B. Humanities/Fine Arts (Take one course from each group.)

1. Group 1

a) ENG 231 American Literature I	3-0-3
b) ENG 232 American Literature II	3-0-3
c) ENG 241 British Literature I	3-0-3
d) ENG 242 British Literature II	3-0-3
e) PHI 240 Introduction to Ethics	3-0-3
f) REL 110 World Religions	3-0-3

2. Group 2

a) ART 111 Art Appreciation	3-0-3
b) ART 114 Art History Survey I	3-0-3
c) ART 115 Art History Survey II	3-0-3
d) COM 231 Public Speaking	3-0-3
e) MUS 110 Music Appreciation	3-0-3
f) MUS 112 Introduction to Jazz	3-0-3

C. Social/Behavioral Sciences

1. ECO 251 Prin of Microeconomics	3-0-3
2. Take one course from:	
a) HIS 111 World Civilizations I	3-0-3
b) HIS 112 World Civilizations II	3-0-3
c) HIS 131 American History I	3-0-3
d) HIS 132 American History II	3-0-3
e) POL 120 American Government	3-0-3
f) PSY 150 General Psychology	3-0-3
g) SOC 210 Introduction to Sociology	3-0-3

D. Mathematics

1. MAT 271 Calculus I	3-2-4
2. MAT 272 Calculus II	3-2-4
3. MAT 273 Calculus III	3-2-4

E. Natural Sciences

1. CHM 151 General Chemistry I	3-3-4
2. PHY 251 General Physics I	3-3-4
3. PHY 252 General Physics II	3-3-4

F. Other General Education (Take one course.)

1. BIO 111 General Biology	3-3-4
2. COM 110 Introduction to Communication	3-0-3
3. COM 231 Public Speaking	3-0-3
4. CHM 152 General Chemistry II	3-3-4
5. ECO 252 Prin of Macroeconomics	3-0-3
6. GEL 111 Geology	3-2-4
7. HUM 110 Technology and Society	3-0-3
8. PHI 240 Introduction to Ethics	3-0-3

II. Other Required Hours

A. Required

1. ACA 122 College Transfer Success	0-2-1
2. EGR 150 Intro to Engineering	1-2-2

B. Other Required Hours (Take 12 credits.)

1. BIO 111 General Biology	3-3-4
2. CHM 152 General Chemistry II	3-3-4
3. COM 110 Introduction to Communication	3-0-3
4. COM 231 Public Speaking	3-0-3
5. CSC 134 C++ Programming	2-3-3
6. CSC 151 JAVA Programming	2-2-3
7. DFT 170 Engineering Graphics	2-2-3
8. ECO 252 Prin of Macroeconomics	3-0-3
9. EGR 220 Engineering Statics	3-0-3
10. GEL 111 Geology	3-2-4
11. HUM 110 Technology and Society	3-0-3
12. MAT 280 Linear Algebra	2-2-3
13. MAT 285 Differential Equations	2-2-3
14. PED 110 Fit and Well for Life	1-2-2