

ASSOCIATE IN ENGINEERING

Course Selection Guide

Updated Summer 2023

BS in Engineering Degrees

- [ECU](#)
- [NC A&T](#)
- [NC State](#)
- [UNC Charlotte](#)
- [Western Carolina](#)

General Education – 45 SHC (“Semester Hours of Credit”) Universal General Education Transfer Component (UGETC) Courses (31-32 SHC)

English Composition (6 SHC)

AE / UGETC Requirement	ECU	NCA&T	NCSU	UNCC	WCU
ENG 111 Writing & Inquiry	ENG 111	ENG 111	ENG 111	ENG 111	ENG 111
ENG 112 Writing/Research in the Disciplines	ENG 112	ENG 112	ENG 112	ENG 112	ENG 112

Humanities/Fine Arts (H/FA) (6 SHC) — Select two courses from separate disciplines

AE / UGETC Requirement	ECU	NCA&T	NCSU	UNCC	WCU
One course selected from ART 111, ART 114, 115, COM 231, MUS 110, MUS 112	ART 111	COM 231	COM 231	ART or MUS	COM 231
One course selected from ENG 231, ENG 232, ENG 241, ENG 242, PHI 215, PHI 240, REL 110 (see note below)	Any	Any	ENG 231	Any	ENG

Note: REL 110 is not a UGETC course.

For UNCC Systems Engineering, take COM 231.

Social and Behavioral Sciences (S/BS) (6 SHC) — Select two courses from separate disciplines

AE / UGETC Requirement	ECU	NCA&T	NCSU	UNCC	WCU
ECO 251	ECO 251	ECO 251	ECO 251	ECO 251	ECO 251
One course selected from HIS 111, HIS 112, HIS 131, or HIS 132, POL 120, PSY 150, or SOC 210	HIS 131 or 132	HIS 111 or 112	PSY 150	Any	HIS

Mathematics (12 SHC) — Two courses selected from MAT 171, 172, 263, 271, 272

AE / UGETC Requirement	ECU	NCA&T	NCSU	UNCC	WCU
MAT 271 Calculus I	MAT 271	MAT 271	MAT 271	MAT 271	MAT 271
MAT 272 Calculus II	MAT 272	MAT 272	MAT 272	MAT 272	MAT 272
MAT 273 Calculus III (see note below)	MAT 273	MAT 273	MAT 273	MAT 273	MAT 273

Note: MAT 273 is not a UGETC course.

Natural Science (12 SHC)

AE / UGETC Requirement	ECU	NCA&T	NCSU	UNCC	WCU
CHM 151 General Chemistry I	CHM 151	CHM 151	CHM 151	CHM 151	CHM 151
PHY 251 General Physics I	PHY 251	PHY 251	PHY 251	PHY 251	PHY 251
PHY 252 General Physics II	PHY 252	PHY 252	PHY 252	PHY 252	PHY 252

Other General Education Hours (3-4 SHC)

AE Requirement	ECU	NCA&T	NCSU	UNCC	WCU
Choose from BIO 111, CHM 152, COM 231, ECO 252, GEL 111, HUM 110, PHI 240	BIO 111	Any	HUM 110	BIO 111 or GEL 111	Any

For ECU, take CHM 152 for bioprocessing concentration.

Other Required Hours (14-15 SHC)

AE Requirement	ECU	NCA&T	NCSU	UNCC	WCU
ACA 122 (This course should be taken in the student's first semester.)	ACA 122	ACA 122	ACA 122	ACA 122	ACA 122
EGR 150	EGR 150	EGR 150	EGR 150	EGR 150	EGR 150

Additional course(s) to complete the 14-15 SHC requirement

Choose from BIO 111, CHM 152, CSC 134, CSC 151, DFT 170, ECO 252, EGR 220, GEL 111, HUM 110, MAT 280, MAT 285, or PED 110.
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Below is only a partial list of engineering degrees each university offers. For others, use the university's [baccalaureate degree plans](#).

Concentration	ECU	NCA&T	NCSU	UNCC	WCU
Biomedical (Mechanical-Biomedical Concentration at UNCC)	CSC 134 or 151 DFT 170 EGR 220 MAT 280 MAT 285	BIO 111 CHM 152 CHM 251 MAT 285	BIO 111 CHM 152 CHM 251 MAT 285	DFT 170 EGR 220 MAT 280 MAT 285	not offered
Chemical (Bioprocessing at ECU)	CSC 134 or 151 DFT 170 EGR 220 MAT 280 MAT 285	BIO 111 CHM 152 CHM 251 MAT 285	CHM 152 CHM 251 CHM 252 DFT 170 MAT 285	not offered	not offered
Civil	not offered	DFT 170 EGR 220 MAT 285	DFT 170 EGR 220 MAT 280 or 285	CSC 134 EGR 220 MAT 280 MAT 285	not offered
Computer – Electrical at ECU	CSC 134 or 151 DFT 170 EGR 220 MAT 280 MAT 285	CSC 151 MAT 285	DFT 170 MAT 280 MAT 285	CSC 134 MAT 280 MAT 285	not offered
Electrical	CSC 134 or 151 DFT 170 EGR 220 MAT 280 MAT 285	CSC 134 or 151 MAT 280 MAT 285	DFT 170 EGR 220 MAT 280 or 285	CSC 134 MAT 280 MAT 285	CSC 134 MAT 285
Industrial and/or Systems	CSC 134 or 151 DFT 170 EGR 220 MAT 280 MAT 285	CSC 134 MAT 280	DFT 170 EGR 220 MAT 280 MAT 285	CSC 134 MAT 280 MAT 285	not offered
Mechanical	CSC 134 or 151 DFT 170 EGR 220 MAT 280 MAT 285	EGR 220 MAT 285	CSC 134 DFT 170 EGR 220 MAT 285	DFT 170 EGR 220 MAT 280 MAT 285	CSC 134 DFT 170 EGR 220 MAT 280 MAT 285

Note: CHM 152 is required by Durham Tech as a prerequisite to CHM 251, but it is not required by NC State.