

## NCSU Civil, Construction, Environmental Engineering

(Unofficial Community Colleges to NCSU Curriculum)

Degree Earned: NCSU Bachelor of Science in Civil, Engineering

Transfer GPA = 3.5

Effective: 2018

Grey Highlighted Courses – Take at NCSU

### FRESHMAN YEAR

Com College	Fall Semester	Credit	Com College	Spring Semester	Credit
CHM 151	CH 101 Chemistry -- A Molecular Science	3		GEP Requirement	3
CHM 151	CH 102 General Chemistry Lab	1	ECO 251	EC 205 Economics (GEP Social Sciences)	3
EGR 150	E 101 Intro to Engr & Problem Solving	1	MAT 272	MA 241 Calculus II	4
NCSU	E 115 Intro to Computing Environment	1	PHY 251	PY 205/PY 206 Physics for Engr & Science I	4
ENG 111 & 112	ENG 101 Academic Writing & Research	4	E 102	Engineering in the 21 <sup>st</sup> Century	2
MAT 271	MA 141 Calculus I	4			
PED 110	HESF 1** Health and Exercise Studies Fitness Course	1			
15			16		

### SOPHOMORE YEAR

Com College	Fall Semester	Credit	Com College	Spring Semester	Credit
EGR 220	CE 214 Engr Mech -- Statics	3	NCSU	CE 225 Mechanics of Solids	3
DFT 170	TDE 220 Civil Engineering Graphics	3	NCSU	CE 282 Hydraulics	3
MAT 273	MA 242 Calculus III	4	MAT 285 or MAT 280	MA 341 Applied Differential Equations or MA 305 Elementary Linear Algebra	3
NCSU	CE 250 Intro to Sustainable Infrastructure	3	NCSU	MSE 200 Mech Prop of Struct Mat	3
CSC 134	CSC 111 Intro to Computing: Python	3	PHY 252	PY 208 Physics for Engr & Science II	4
16			16		

### JUNIOR YEAR

Com College	Fall Semester	Credit	Com College	Spring Semester	Credit
NCSU	CE Core Elective I	3	NCSU	CE Core Elective II	3
NCSU	CE Core Elective – Lab Intensive Elective - I	3/4	NCSU	CE Core Elective – Lab Intensive Elective -II	3/4
NCSU	CE Junior Elective I	3	NCSU	CE Junior Elective II	3
NCSU	ST 370 Pro & Stat for Engr	3	NCSU	Engr Science Elective	3
COM 231	COM 110 Public Speaking or ENG 331 Comm for Engr & Tech	3	CHM 152 or GEL 111 or BIO 111	Basic Science Elective	3
15/16			15/16		

### SENIOR YEAR

Com College	Fall Semester	Credit	Com College	Spring Semester	Credit
NCSU	CE Senior Elective I	3	NCSU	CE Senior Elective III	3
NCSU	CE Senior Elective II	3	NCSU	CE Senior Elective IV	3
NCSU	Senior Elective	3	NCSU	CE Senior Design	3
	GEP Requirement	3		GEP Requirement	3
	GEP Requirement	3		GEP Requirement	3
15			15		

**NCSU - Minimum Credit Hours Required for Graduation in Civil, Construction, Environmental Engineering:**

**124**

**NCSU Civil, Construction, Environmental Engineering (continued)**

Pick at least one CE AREA Introductory course (I) in 5 different areas. Pick an additional 7 courses; at least 1 must be a: Capstone (C); another must be a design (D) in an area different from that of the capstone. Pick at least 3 CE laboratory experiences (L).						
			Hrs	Sem	Pre- & Co- requisites	
<b>Coastal Engineering &amp; Water Resources</b>						
	L	CE 381	Hydraulic Sys. Meas. Lab	1	F/S	CoReq: CE 382
I	D	CE 383	Hydrology & Urban	3	F/S	C- or better in CE 382
I		CE 487	Intro. To Coastal &	3	S	CE 382; Senior standing
	D	CE 488	Water Resources	3	F	CE 339; CoReq: CE 383
C	D	CE *	Water Resources Engr	3	F/S	C- or better in CE 382 & 383; CoReq: CE 390
<b>Computing and Systems</b>						
I		CE 437	Civil Engineering	3	F	CSC 111 & (MA 341 or MA 305)
I		CE 339	Civil Engineering Systems	3	S	CSC 111 & (MA 341 or MA 305)
<b>Construction Engineering</b>						
I		CE 263	Intro to Construction	3	F	CoReq: CE 214
I	D	CE 367	Mech. & Elec. Sys in	3	S	CE 382
		CE 463	Construct'n Est, Plan &	3	F	CE 263 & CE 365 (Priority to CNE)
	D	CE 466	Building Construction	3	F	CoReq: CE 327 (Priority to CNE)
<b>Environmental Engineering</b>						
I		CE 373	Fund of Environmental	3	F/S	CoReq: CHE 205 or CE 382
		CE 479	Air Quality	3	S	CE 373, CE 382; CoReq: ST 370
	D	CE 476	Air Pollution Control	3	F	CE 373, CE 390, MAE 301; CoReq: ST 370
	D	CE 477	Principles of Solid Waste	3	S	CE 373, CE 382, CE390; CoReq: CE 342
	D	CE 484	Water Supply & Waste	3	F	CE 373, CE 382
		CE 478	Energy and Climate	3	F	CoReq: CE 390
<b>Geotechnical Engineering</b>						
I	L	CE 342	Engr Behav of Soils &	4	F/S	C- or better in CE 313; CoReq: CE 382
		CE 435	Engineering Geology	3	alt S	MEA 101; Junior standing
	D	CE 443	Seepage, Embank, &	3	alt S	C- or better in CE 342; CoReq: CE 390
C	D	CE *	Geotech Engr Project	3	F	C- or better in CE 342; CoReq: CE 390
	D	CE 444	Intro to Foundation Engr	3	alt F	C or better in CE 342 (first offered Fall 2016)
<b>Structural Engineering</b>						
	L	CE 324	Structural Behavior	1	F/S	C- or better in CE 313
I	D	CE 327	Reinforced Concrete	3	F/S	CE 332, C- or better in CE 313
		CE 325	Structural Analysis	3	F/S	CSC 111, C- or better in CE 313
I	D	CE 426	Structural Steel Design	3	F/S	C- or better in CE 313
C	D	CE 420	Structural Engr Project	3	F/S	C or better in C 325, CE 327, CE 426; CoReq:
<b>Transportation Engineering</b>						
I	D	CE 305	Traffic Engineering	3	F/S	CE or CNE Majors; CoReq: ST 370
		CE 401	Transportation Systems	3	F	C- or better in CE 305
	D	CE 402	Traffic Operations	3	F	C- or better in CE 305
	D	CE 403	Highway Design	3	S	C- or better in CE 305
	D	CE 413	Principles of Pavement	3	F	CE 332; CoReq: CE 342
C	D	CE 400*	Transportation Engr Project	3	S	C- or better in CE 305; plus 1 of the following: CE 401, 402, 403 or 413; CoReq: CE 390
<b>Other Civil Engineering Courses</b>						
I	L	CE 332	Materials of Construction	3	F/S	MSE 200; Junior standing in CE or CNE
	L	CE 301	Civil Engr Surveying & Geomatics	3	F/S	CE, CNE or ENE majors
C	D	CE 450*	Civil Engr Project	3	F/S	CE 390 & one course from two of the following categories: Geotech (CE435,CE443,CE444), Trans (CE401,CE402,CE403)

\*CE 440 last offering F15; CE 400 and CE 480 last offering S16; CE 450 offered starting S16