

**2000 CE PRE AND CO REQUISITES - BEFORE 2017**

<b>COURSE #</b>	<b>UNITS</b>	<b>COURSE NAME</b>	<b>PREREQUISITES</b>	<b>CO-REQUISITES</b>
MATH 122A & 122B/124/125	5, 3	Calculus I	MATH 120R or MATH 110 & MATH 111 or MATH Read. Test	
ENGL 101	3	First Year Composition	ENGL placement 101	
CHEM 103a or 151	3	Chemistry I	MATH 110, MATH Read. Test Scores	CHEM 104A (encouraged)
CHEM 104a	1	Chem. Lab. I		CHEM 103A
ENGR 102A and B	3	Intro. To Engineering		MATH 122B, 124, or 125
MATH 129	3	Calculus II	MATH 122B, 124 or 125 with a C or better	
ENGL 102	3	First Year Composition II	ENGL 101 or 101A	
PHYS 141	4	Introductory Mechanics	MATH 122b, 124, or 125 or appropriate Math Placement Level	MATH 129
MCB 181 R, L or	4	Introductory Biology I	Math 109C, 110, 112, 113, 120, 120R, 124, 125, 129, 233	
GEOS 251	4	Physical Geology		
MATH 223	4	Calculus III	MATH 129, 223, or 250A with a C or better	
PHYS 241 or	4	Electricity & Magnetism	PHYS 141	MATH 223 (encouraged)
CHEM 152	4	Chemistry II	CHEM 103A & 104B, CHEM 105A & 106A, or CHEM 151	
MATH 254	3	Ordinary Differential Equations	MATH 129, 223, or 250A with a C or better	
ENGR 211 P and I	3	ENGR. Science Electives	211P=Math 129 and ENGR 102 / 211I=Math 254, ENGR 211C	
AME 105 (CE 260)	1	Introduction to MATLAB I	MATH 122B or 125	
CE 210	3	Engineering Graphics		
CE 214	3	Statics	PHYS 141, or 161H, and MATH 129 or 250B	
CE 215	3	Mechanics of Solids	CE 214	
CE 218	3	Mechanics of Fluids	CE 214	
CE 251	3	Surveying	MATH 111	
<b>ALL COURSES 300 LEVEL OR HIGHER REQUIRE ADVANCED STANDING (GPA <math>\geq</math> 2.25)</b>				
CE 301	3	Engineering Communications		
CE 303	3	Numerical Analysis for Civil Engineers	MATH 254 & AME 105	
CE 310	3	Probability and Statistics in CE	MATH 129	
CE 323	4	Hydraulic Engineering & Design	CE 218	
CE 329	1	Fluid Mechanics Lab		CE 218
CE 333	3	Elementary Structure Analysis	CE 215	
CE 334	3	Structural Design In Steel	CE 333	
CE 335	3	Structural Design In Concrete	CE 333	
CE 343	3	Soil Mechanics	CE 215	
CE 349	1	Soils Laboratory		CE 343
CE 363	4	Transportation Engr & Pavement Design		
CE 370R,L (CHEE)	4	Environmental & Water Engineering/Lab	CHEE 203 for chemical engineering majors only	
CE 389	1	Materials Testing Lab	CE 215	
CE 408A	3	Issues in Civil Engineering Practice	At least 2 of CE 323, 334 or 335 , 343, 363, (370R and 370L)	CE 301
CE 408B	3	Civil Engineering Senior Capstone Design	CE 301, 408A and at least 4 of CE 323, 334 or 335, 343, 363, (CE 370R and CE 370L)	
CE 440	3	Foundation Engineering	CE 343	
<b>DESIGN - BASED</b>				
CE 334	3	Structural Design in Steel	CE 333	
CE 335	3	Structural Design In Concrete	CE 333	
CE 422	3	Open-Channel Flow	CE 323 or consent of instructor	
CE 427	3	Computer Applications in Hydraulic	CE 323 or consent of instructor	
CE 429	3	Special Topics in Hydraulics & Water Res.	Approval of instructor	
CE 432	3	Advanced Structural Design in Steel	CE 334	
CE 434	3	Design of Wood and Masonry	CE 333	CE 333
CE 435	3	Prestressed Concrete Structures	CE 333 and CE 335	
CE 437	3	Advanced Structural Design in Concrete	CE 333 and CE 335	
CE 438	3	Behavior & Design of Structural Systems	CE 333 and CE 334 (CE 335 not required but strongly)	
CE 441	3	Earth Structures in Geotech Engineering	CE 343	
CE 442	3	Ground Improvement	CE 343	
CE 445	3	Environmental Engineering	CE 343	
CE 446	3	Geotechnical Earthquake Engineering	CE 343	
CE 448	3	Numerical Methods in Geotechnical Engr.	CE 402 and CE 343	
CE 462A	3	Traffic Engineering and Operations	CE 363	
CE 463	3	Traffic Flow & Capacity Analysis	CE 363	
CE 464A	3	Integrated Hwy Bridge Dsgn-LRFD Metho	CE 310, CE 323, CE 343, CE 363	CE 335
CE 466	3	Highway and Geometric Design	CE 363	
CE 482	3	Construction Proj. Plan, Sched. & Control		
CE 483	3	Construction Cost Estimating	Math 129, CE 381	
CE 426 (ABE)	3	Watershed Engineering	CE 218 or AME 331	
CE 455 (ABE)	3	Soil & Water Resources Engineering	CE 218 or AME 331	
CE 456 (ABE)	3	Irrigation Systems Design	CE 218	
CE 476A (CHEE)	3	Water Treatment System and Design	CE/CHEE 370R,L	
GEN 427 (MNE)	3	Geomechanics		
<b>ANALYSIS - BASED</b>				
CE 381	3	Construction Engineering Management		
CE 402	3	Introduction To Finite Element Meth	CE 303	
CE 410	3	Probability in Civil Engineering	MATH 129, CE 310	
CE 423	3	Hydrology	CE 218	
CE 433	3	Advanced Structural Analysis	CE 333	
CE 439	3	Develop. Next Generation Li-ion	Phys 141 and Chem 151	
CE 444	3	Special Topics in Geomechanics	CE 343	
CE 460	3	Special Topics in Transportation	CE 363 or consent of instructor	
CE 462A	3	Public Transit Planning & Operations		
CE 465	3	Transp. Data Management & Analysis	CE 310, CE 363	
CE 468 (PLN)	3	Urban Transportation Planning		
CE 469	3	Travel Demand Modeling	CE 363	
CE 449 (HWR)	3	Statistical Hydrology	CE 310, SIE 305 OR MATH 461	
CE 458 (ABE)	3	Soils, Wetlands & Wastewater Reuse	CE 218 or AME 331	
CHEE 469a	3	Air Pollution I: Gases	MATH 223	
CE 476B (CHEE)	3	Wastewater Treatment Design System		
CE 478 (CHEE)	3	Into. To Hazardous Waste Management	Consult deparatment before enrolling	
HWR 431	4	Hydrogeology	GEOS 251, MATH 129	
CHEE 400R	3	Water Chemistryfor Engineer		