

Civil Engineering Curriculum Requirements – 4 Year Plan (2006)

Course No.	Course Title	Prerequisite	Credits
FRESHMAN FALL:			
MATH 170	Anal. Geom. and Calculus I	Math 143 or Plcmt. Test	4
CHEM 111	Principles of Chemistry I	Chem 50 or Plcmt. Test	4
CE 115	Intro. to Civil Engineering	Major in CE	2
ENGL 102	College Writ. and Rhetoric	Engl 101 or Plcmt. Test	3
Core 103-119 (Fall only)	Core Discovery		<u>4</u>
			17
FRESHMAN SPRING:			
MATH 175	Anal. Geom. and Calculus II	Math 170	4
ENGR 105	Engineering Graphics		2
PHYS 211	Engineering Physics I	(Math 170)	3
BASIC SCI. ELECT	(See List)		4
Core 153-169 (Spring only)	Core Discovery	Core 103-119 (recommended)	<u>3</u>
			16
SOPHOMORE FALL:			
MATH 275	Anal. Geom. and Calculus III	Math 175	3
CE 211 (Fall only)	Engineering Measurements	Engr 105, Math 143 or 170 or 175	3
CE 215 (Fall only)	CE Analysis & Design	CE 115, Engr 105, Math 170 (Phys 211)	2
ENGR 210	Engineering Statics	Math 170	3
ENGR 240	Intro. to Elect. Circuits	Math 175, Phys 211	3
Econ 201, 202, or 272	Economics		<u>3</u>
			17
SOPHOMORE SPRING:			
MATH 310	Ord. Differential Equations	Math 175 (275 recommended)	3
ENGR 220	Engineering Dynamics	Engr 210	3
ENGR 335	Fluid Mechanics	Math 275, Engr 210	3
ENGR 350	Mechanics of Materials	Engr 210, Math 175 (Math 310)	3
BASIC SCI. ELECT.	(See List)		<u>4</u>
			16
JUNIOR FALL:			
STAT 301	Probability and Statistics	Math 175	3
CE 322	Hydraulics	CE215, Engr 220, Engr 335, Math 310, Phys 211	3
CE 323	Hydraulics Lab	(CE 322)	1
CE 330 (Fall only)	Fund. of Envir. Engr.	Engr 335, Chem 111, Math 310, CE215	3
CE 342 (Fall only)	Theory of Structures	Engr 350, Math 310, Phys 211	3
CE 357 (Fall only)	Prop. Constr. Matls.	CE215, Engr 350, Math 310 (Stat 301)	<u>3</u>
			16
JUNIOR SPRING:			
ENGL 317	Technical Writing	Jr. Standing, Engl 102	3
CE 360 (Spring only)	Fund. of Geotechnical Engr.	CE215, Engr 335, Engr 350, Math 310	4
CE 372 (Spring only)	Fund. of Transportation Engr.	CE 211, Stat 301	4
CE 431 (Spring only)	Design Wtr & Wastewtr Sys I	Engr 335, CE 322, CE 330, or perm.	3
CE 441 (Spring only) or T/E	Reinf. Concrete Design or TE	CE 342	<u>3</u>
			17
SENIOR FALL:			
CE 325 (Fall only)	Fund. of Hydrologic Engr.	Math 310, Engr 335, Stat 301	3
ENGR 360	Engineering Economy	Jr. Standing	2
CE 444(Fall only) or T/E	Steel Design or Tech. Elect.	CE 342	3
T/E	Technical Electives (<i>Note</i>)	See T/E List	3
CE 493	Senior Design Project	Sr. Standing in CE Major and perm.	2
Phil 103 or AmSt 301	Ethics or American Culture		<u>3</u>
			16
SENIOR SPRING:			
ENGR 320	Thermo. and Heat Transfer	Engr 210, Math 310	3
T/E	Technical Electives (<i>Note</i>)	See T/E List	3
T/E	Technical Electives (<i>Note</i>)	See T/E List	3
CE 491	Senior Seminar	Sr. Standing in CE Major	1
CE 494	Senior Design Project	Sr. Standing in CE Major and perm.	2
H/SS	International Component		<u>3</u>
			15

Note: Technical electives must include 9 cr. taken from CE 421, 422, 432, 441/444, 460, 473, 474 and 475. Either CE 441 or CE 444 must be taken as required course; other may be taken as Tech. Elective. 12 cr. min.

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Technical Elective Courses Civil Engineering Curriculum

2006

APPROVED BASIC SCIENCE ELECTIVES:

Requires TWO of the following courses:

Course No.	Course Title	Prerequisite	Credits
BIOL 115	Cells and the Evolution of Life	Chem 101 or 111	4
CHEM 112	Principles of Chemistry II	Chem 111 or perm.	5
CHEM 302/303	Princ. of Phys. Chemistry & Lab	Chem 112, Math 170, Phys 211 or perm.	4
GEOL 111/111L	Phys. Geology for Sci Majors & Lab	(None)	4
MMBB 154/155	Intro Biol/Bacteria & Viruses		4
PHYS 212/212L	Engineering Physics II & Lab	Phys 211, Math 175	4

A minimum of 12 credits of Approved Technical Electives is required for the B.S. Civil Engineering degree.

APPROVED CE TECHNICAL ELECTIVES (includes technical breadth courses):

Course No.	Course Title	Prerequisite	Credits
Courses available in Fall semesters only:			
CE 326	Hydrologic Meas. Techniques	(coreq CE 325)	1
CE 422	Hydraulic Design	CE 322, Engr 360, permission	3
CE 428 (BAE458)	Open Channel Hydraulics	CE 322	3
CE 432	Des. of Water & Wastewtr Sys II	CE 431	3
CE WS 443	Design of Timber Structures	CE 342	3
CE 444	Steel Design	CE 342	3
CE 445	Matrix Structure Analysis	CE 342 or perm.	3
CE 460	Geotechnical Engr. Design	CE 360	3
CE 474	Traffic Systems Design	CE 372, permission	3
CE 492	Prof. Society Project	Jr. Standing and permission	1
CE WS 435	Hazardous Waste Engineering		3
Courses available in Spring semesters only:			
CE 402	Applied Numerical Methods	Math 310, high level prog. lang.	3
CE 421	Engineering Hydrology	BAE 355 or CE 325	3
CE 433	Water Quality Management	CE 330, permission	3
CE 441	Reinforced Concrete Design	CE 342	3
CE WS 442	Prestressed Concrete Design	CE 441	3
CE WS 461	Foundations	CE 360	3
CE 473	Highway Design	CE 211, (CE 372), & permission	3
CE 475	Pavement Design and Eval.	CE 357 or equiv. or perm.	3
CE 482	Project Engineering	Stat 251, 301, or equiv, and Sr. Standing or perm.	3
CE 484	Engineering Law and Contracts	Sr. Standing	2

Notes:

Technical electives are offered on a demand basis. Courses may be cancelled for insufficient enrollment.

To ensure sufficient breadth, the technical electives must include at least 9 credits from CE 421, 422, 432, 441/444, 460, 473, 474 and 475. The technical electives taken for breadth must be in at least two disciplines (42x, 43x, 44x, 46x or 47x).

Technical electives from other engineering and science disciplines may be taken with permission, provided that the student can demonstrate the intended course is required to meet specific career objectives.

To graduate in Civil Engineering, a minimum grade of C must be earned in all mathematics, science, engineering and technical elective courses used to satisfy the curriculum. Any student majoring in civil engineering may accumulate no more than 14 credits of D or F in mathematics, science or engineering courses that are used to satisfy the requirements. Included in this number are multiple repeats of a single class or single repeats of multiple classes and courses transferred from other institutions. A warning will be issued to students who have accumulated 7 credits of D or F in mathematics, science, engineering or technical elective courses that are used to satisfy curricular requirements.

AmSt 301 (American Culture) or Phil 103 (Ethics) and Econ 201, 202, or 272 are required to satisfy the CE curriculum and the UI humanities and social sciences core requirements.