

Guidelines for Depth and Technical Electives in Civil Engineering, catalog years FS 09 and later

October 23, 2014

The Civil Engineering curriculum for students with a catalog year of FS 09 or later includes 3 Depth and 2 Technical Electives. Every BSCE student is required to have depth in 4 areas of Civil Engineering. CE 3201 followed by both CE 3210 and CE 3220 is required, so every student will have depth in the structural engineering area. The three depth electives must be taken in 3 of the remaining 6 areas (construction, environmental, geotechnical, materials, transportation, and water resources). The depth electives must be from three different areas. The two technical electives can be selected from any of the seven areas.

The faculties in the seven areas of CE have developed guidelines to help in selecting a set of electives that fit your interest. Choose them wisely. While all the electives are good and useful engineering courses, your career choice will determine which courses are most useful to you.

The attached matrix of courses and areas will assist in selecting and keeping track of your depth and technical electives.

Construction Engineering

Depth Electives:

Choose one depth elective from the construction engineering area listing.

Choose two additional depth electives depending on your specialty interest within construction engineering.

- Geotechnical: CE 4729 plus one course from the remaining areas (Environmental, Transportation, Materials, Water Resources)*
- Environmental: CE 3615 plus one course from the remaining areas (Geotechnical, Transportation, Materials, Water Resources)*
- Transportation: CE 5510 plus one course from the remaining areas (Geotechnical, Environmental, Materials, Water Resources)*
- Materials: CE 5112 or CE 5113 plus one course from the remaining areas (Geotechnical, Transportation, Environmental, Water Resources)*

Technical Electives:

Choose one technical elective from the construction engineering area.

Choose one technical elective from any area *

Materials Engineering

Depth Electives:

Choose one depth elective from the materials engineering area listing.

Choose two additional depth electives from the following: CE 4729, CE 3615, or CE 5510.

Technical Electives:

Choose two technical electives from the materials area.*

*Refer to Attached Civil Engineering Depth and Technical Elective Matrix

Environmental Engineering

Depth Electives:

Choose CE 4729 and CE 3615 as depth electives.

Choose one additional depth elective from the water resources engineering area listing.*

Technical Electives:

Choose CE 5619 as one technical elective.

Choose from the list in the current catalog.

Geotechnical Engineering

Depth Electives (3 total):

Choose CE 4729 as one depth elective

Choose two additional depth electives from the water resources engineering, materials engineering and environmental engineering areas.*

Technical Electives:

Choose CE 5715 or CE 5729 as one technical elective.

Choose one technical elective from any area.*

Water Resources Engineering

Depth Electives:

Choose one depth elective from the water resources engineering area listing.*

Choose two additional depth electives from the environmental, transportation, materials, construction or geotechnical engineering areas.*

Technical Electives:

Choose two technical electives from the water resources engineering area listing.*

Transportation Engineering

Depth Electives:

Choose one depth elective from the transportation engineering area course listing.*

Choose two additional depth electives from the environmental, water resources, materials, construction or geotechnical engineering areas.*

Technical Electives:

Choose two depth electives from the transportation engineering area course listing.*

Structural Engineering

Depth Electives:

Choose three depth electives the environmental, transportation, materials, construction, water resources or geotechnical engineering areas.

Technical Electives:

Choose two depth electives from the structural engineering are course listing.

*Refer to Attached Civil Engineering Depth and Technical Elective Matrix

Civil Engineering Depth and Technical Elective Matrix

New Numbers

Name: _____

Every student must have depth in 4 areas. Depth courses are *primarily* (not always) courses that have another CE course in the same area as a pre-requisite, excluding CE 3334, as CE 3330 is considered a basic science course. Structures is a required depth area, students take 3210 & 3220. Three depth courses in other areas must be taken. In addition, there are 2 technical electives that can be taken in any area. Use this matrix in conjunction with the "Guidelines for Depth and Technical Electives in Civil Engineering" and your advisor to select your electives.

NOTE that many of these courses are NOT offered every semester

Updated 10.08.2014

Pre-Requisite	CE 3201 Structures	CE 4448 Construction	CE 3715 Geotech	CE 3116 Materials	CE 3500 Transportation	CE 2601 Environmental	CE 3330 Water Res
CE 3210 & 3220 required	CE 5442	CE 4729	CE 5112	CE 5510	CE 3615 pre 3330	CE 5330	
5001 Masonry			CE 5113	CE 5513	CE 5640	CE 5331	
CE 5118	CE 5445	CE 5744	CE 5117	CE 5250	CE 5630 pre 3615	CE 5335	
CE 5203	CE 5446	CE 5715	CE 5156		CE 5650	CE 5337	
CE 5205	CE 5460	CE 5716			CE 5670	CE 5338 pre 3334	
CE 5260	CE 5449	CE 5729 pre 4729			CE 5605 pre 2601, 2602 & Env 3603	CE 5333	
CE 5207		CE 5750			CE 5642		
CE 5210 pre 3210					CE 5665		
CE 5220 pre 3220					CE 5660 pre 3330		
CE 5222 pre 3220					CE 5662 pre 3330		
CE 5231 pre 3320					CE 5619 pre 3615		
CE 5208 pre 3320					5001 Phytoremed		
CE 5206 pre 3210 or 3220							

The CE Department offers new experimental courses under the CE 5001 number. Check the current list of course offerings for new courses since the last update of this list

Plan	Notes	Area	Course	Semester
Depth	Structures (not elective)	Structures	CE 3210 & 3220	
Depth 1	Not structures area			
Depth 2	Not struct, not the same as Depth #2			
Depth 3	Not struct nor the same as Depth #2 or #3			
Technical 1				
Technical 2				

CE 4099 and CE 5000 count as technical electives. Upper level courses in the Surveying area (5702, 5405, 5406) count as technical electives.