Professional Specializations in Civil Engineering

Students who select an area of specialization must take a minimum of nine credit hours from the following technical electives listed under the respective area of specialization. Three additional credit hours may be any 400-level CAE course taken with prior approval of the student’s advisor and chair.

Civil-Environmental Engineering
The department offers a significant specialization in environmental engineering that involves technical electives and substitutions for required courses. Those interested should consult with the department.

Construction Engineering and Management
CAE 471 Construction Planning and Scheduling
CAE 472 Construction Site Operation
CAE 473 Construction Project Administration

Geotechnical Engineering
CAE 415 Pavement Design, Construction, and Maintenance
CAE 442 Finite Element Methods in Framed Structures
CAE 486 Soil and Site Improvement

Structural Engineering
CAE 408 Bridge and Structural Design
CAE 420 Dynamics of Structures
CAE 430 Probability concepts in Civil Engineering
CAE 435 Experimental Analysis of Structures
CAE 442 Finite Elements Methods in Framed Structures

Transportation Engineering
CAE 412 Traffic Engineering Studies and Design
CAE 415 Pavement Design, Construction and Management
CAE 416 Facility Design of Transportation Systems
CAE 417 Railroad Engineering Studies and Design
CAE 430 Probability Concepts in Civil Engineering