

2019-2020 Civil Engineering Design Electives

Students will need to choose from the list below to satisfy their curriculum's Civil Engineering design elective requirement. NOTE: CE 333, 334, and 460 - *These courses may be taken as either 'core' OR 'elective' CE classes...BUT they may NOT be counted twice as both a 'core' AND 'elective' on a student's curriculum. The student is responsible for checking and abiding by the ISU catalog relative to official course details, prerequisites, and narratives.*

STRUCTURES

C E 333. Structural Steel Design I	(3-1) Cr. 3. F.S. Prereq: C E 332, E M 327
C E 334. Reinforced Concrete Design I	(2-2) Cr. 3. F.S. Prereq: C E 332, E M 327
C E 446. Bridge Design	(2-2) Cr. 3. Alt. S., offered odd-numbered years. Prereq: C E 333, C E 334
C E 448. Building Design	(2-2) Cr. 3. Alt. S., offered even-numbered years. Prereq: C E 333, C E 334
C E 533. Structural Steel Design II	(3-0) Cr. 3. Offered irregularly. Prereq: C E 333
C E 534. Reinforced Concrete Design II	(2-2) Cr. 3. Offered irregularly. Prereq: C E 334
C E 535. Pre-Stressed Concrete Structures	(3-0) Cr. 3. Prereq: C E 334
C E 546. Bridge Design	(2-2) Cr. 3. Alt. S., offered odd-numbered years. Prereq: C E 333, C E 334
C E 548. Building Design	(2-2) Cr. 3. Alt. S., offered even-numbered years. Prereq: C E 333, C E 334

GEOTECHNICAL/MATERIALS

C E 460. Foundation Engineering	(3-0) Cr. 3. F.S. Prereq: C E 360
C E 467. Geomaterials Stabilization	(2-2) Cr. 3. S. Prereq: C E 360, C E 382 or C E 383
C E 483. Pavement Analysis and Design	(3-0) Cr. 3. S. Prereq: C E 360 and C E 382
C E 484. Advanced Design of Concretes	(2-3) Cr. 3. Offered irregularly. Prereq: C E 382
C E 561. Applied Foundation Engineering	(3-0) Cr. 3. Offered irregularly. Prereq: C E 460
C E 567. Geomaterials Stabilization	(2-2) Cr. 3. S. Prereq: C E 360, C E 382 or C E 383
C E 583. Pavement Analysis and Design	(3-0) Cr. 3. S. Prereq: C E 360 and C E 382
C E 584. Advanced Design of Concretes	(2-3) Cr. 3. Offered irregularly. Prereq: C E 382

TRANSPORTATION

C E 453. Highway Design	(2-2) Cr. 3. F. Prereq: C E 306, C E 355
C E 552. Traffic Safety, Operations, and Maintenance	(3-0) Cr. 3. Alt. S., offered even-numbered years. Prereq: C E 355
C E 553. Traffic Engineering	(3-0) Cr. 3. F. Prereq: C E 355
C E 558. Transportation Systems Development and Management	(3-0) Cr. 3. Alt. F., offered odd-numbered years. Prereq: C E 355

ENVIRONMENTAL/WATER RESOURCES

C E 428. Water and Wastewater Treatment Plant Design (General Option Only)	(2-2) Cr. 3. S. Prereq: C E 326
C E 473. Groundwater Hydrology	(3-0) Cr. 3. F. Prereq: C E 372
C E 488. Sustainable Horizontal Civil Infrastructure Systems.	(3-0) Cr. 3. F. Prereq: Junior or higher classification in engineering or science
C E 522. (ENSCI 522) Water Pollution Control Processes	(2-2) Cr. 3. Offered irregularly. Prereq: C E 421 or C E 521
C E 528. (ENSCI 528) Solid and Hazardous Waste Management	(3-0) Cr. 3. Offered irregularly. Prereq: C E 326 or background courses in both environmental chemistry and microbiology; junior or higher standing
C E 570. Applied Hydraulic Design	(2-2) Cr. 3. Alt. F., offered odd-numbered years. Prereq: C E 372
C E 573. Groundwater Hydrology	(3-0) Cr. 3. F. Prereq: C E 372
C E 588. Sustainable Horizontal Civil Infrastructure Systems	(3-0) Cr. 3. F. Prereq: Junior or higher classification in engineering or science
C E 594W. Construction Stormwater Management and Green Infrastructure	(3-0) Cr. 3. Prereq: E M 378, Con E 241, C E 306 or permission of instructor.

MULTIDISCIPLINARY/CONSTRUCTION

C E 505. Design of Construction Systems	(3-0) Cr. 3. S. Offered irregularly. Prereq: C E 333, C E 360, CON E 322, CON E 340 or graduate standing
A B E 478. Wood Frame Structural Design	(3-0) Cr. 3. Alt. S., offered odd-numbered years. Prereq: E M 324, M E 231
A B E 578. Wood Frame Structural Design	(3-0) Cr. 3. Alt. S., offered odd-numbered years. Prereq: E M 324, M E 231