

Civil Engineering Curriculum

Fall 2022 – Spring 2023

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| Math 20100 Calculus I Pre: Math 19500 (C min.) 4 cr. | Chem 10301 General Chemistry I Pre: Math 19500 (C min.) 4 cr. | CSc 10200 Introduction to Computing Pre: Math 19500 (C min.) or Pre/Co: Math 20100 (C min.) 3 cr. | or ENGR 10200 A Data Sci & Stat Approach to Programming Pre: Math 19500 (C min.) Pre/Co: Math 20100 (C min.) | Engl 11000⁶ Freshman Composition 3 cr. | Liberal Arts⁴ 3 cr. |
| Math 21200 Calculus II Pre: Math 20100 (C min.) 4 cr. | Chem 10401 General Chemistry II Pre: Chem 10301 (C min.) 4 cr. | Phys 20700 General Physics I Pre/Co: Math 21200 (C min.) 4 cr. | Engl 21007 Writing for Engineering Pre: Eng 11000 or FIQWS 3 cr. | CE 20900 Structural and Site Plans Pre/Co: CSc 10200 or ENGR 10200 3 cr. | |
| Math 21300 Calculus III Pre: Math 21200 (C min.) 4 cr. | CE 23100 Statics Pre: Phys 20700 (C min.), Math 21200 (C min.) & CSc 10200 or ENGR 10200 Pre/Co: Math 21300 (C min) 3 cr. | Phys 20800 General Physics II Pre: Phys 20700 Pre/Co: Math 21300 (C min) 4 cr. | CE 21400 CE Data Analysis Pre: CSc 10200 or ENGR 10200, Phys 20700 (C min.) Pre/Co: Math 21300 (C min), Engl 21007 3 cr. | CE 10000 Fundamentals of CE Problem Solving Pre: CSc 10200 or ENGR 10200, Phys 20700 (C min), Math 21200 (C min) Pre/Co: CE 23100 (C min) & CE 21400 (C min) 1 cr. | CE 10100 (Fall only) Intro to Civil Engineering Pre: Phys 20700 (C min); Pre/Co: Engl 21007 1 cr. |
| Math 39100 Differential Equations Pre: Math 21300 (C min) 3 cr. | Math 34600 or Math 39200 Linear Algebra Pre: Math 21300 (C min) 3 cr. | CE 35000 Fluid Mechanics Pre: CE 23100 (C min.), CSc 10200 or ENGR 10200, CE 10000, Pre/Co: Math 39100 (C min.), CE 10100 3 cr. | CE 33200 Mechanics Deformable Bodies Pre: CE 10000, CE 23100 (C min.), , Pre/Co: CE 10100, CE 21400 (C min), Math 39100 (C min), 4 cr. | CE 31500 Computational Methods in CE Pre: CE 10000, CE 21400 (C min), CE 23100 (C min), CSc 10200 or ENGR 10200 Pre/Co: CE 10100, Math 34600, Math 39100 (C min.), 3 cr. | |
| CE 34000 Structural Analysis Pre: CE 33200, CE 20900 Pre/Co: CE 31500 & Math 34600 3 cr. | CE 36500 Hydraulic Engr. Pre for CE majors: CE 35000 (C min.), Pre for ESE majors: CE 35000 (C min) or ME 35600 or ChE 34100 3 cr. | CE 32600 (Fall Only) Transportation Planning Pre: CE 21400 (C min) Pre/Co: CE 31500 3 cr. | CE 37200 Environmental Impact Assessment Pre for CE majors: Chem 10401 (C min.), CE 21400 (C min), & CE 35000 (C min.), Pre for ESE majors: Chem 10401 (C min.), ENGR 26400, & [CE 35000 (C min) or ME 35600 or ChE 34100] 3 cr. | CE 34500 Soil Mechanics Pre: CE 35000 (C min.), CE 21400 (C min) & CE 33200 3 cr. | Liberal Arts⁴ 3 cr. |
| CE 44100 Reinforced Concrete Pre: CE 21400 (C min) & CE 34000 3 cr. | CE 32700 (Spring only) Transportation Systems Engr. Pre: CE 20900, CE 21400 (C min), CE 33200 3 cr. | CE 47400 Environment Engineering Pre: CE 36500 & CE 37200 3 cr. | CE 31600 (Spring only) CE Decision & Systems Analysis Pre: CE 21400 (C min), CE 31500 & Math 34600 Pre/Co: CE 32700, CE 36500 & CE 44100 3 cr. | | Liberal Arts⁴ 3 cr. |
| Specialization Core (Select one of four areas) 3 cr. | Specialization Electives (In same area) 3 cr. | CE 43500 (Fall only) Dynamics of CE Systems Pre: CE 33200, CE 31500, Math 34600 3 cr. | CE 40500 (Fall only) Civil Engineering Management Pre: CE 31600, CE 34000 3 cr. | Liberal Arts⁴ 3 cr. | Liberal Arts⁴ (20000 or higher) 3 cr. |
| Specialization Core (In same area) 3 cr. | Specialization Electives (In same area) 3 cr. | CE 40100⁷ (Spring Only) Review of Civil Eng'ng Fundamentals (Pass/Fail) Pre: Upper junior or senior standing 1 cr. | CE 50900 Senior Design Project Pre: senior standing Pre/Co: CE 32600, CE 32700, CE 47400 & CE 44100 3 cr. | Science Elective EAS 32800 Global Environ. Haz 3 cr. Or Bio 10100 Bio Foundations Pre: Math 19500 (C min.) 4 cr. | Liberal Arts⁴ (20000 or higher) 3 cr. |
| Specialization Core Courses Environmental Engineering and Water Resources CE 566 Eng. Hydrology (Pre: CE 214 (C min), CE 365) (S) CE 583 Air Poll. and Control (Pre: Math 391; co: CE 474) or CE 584 Solid Waste Mgmt. (Co: CE 474) (F) Structures CE 440 FEA (Pre: CE 315, CE 340; Math 346) (S) CE 442 Structural Design (Pre: CE 214 (C min), CE 340) (F) Transportation CE 520 Traffic Engineering (Pre: CE 326, CE 327) (F) CE 540 Highway Eng. (Pre: CE 326, CE 327) (S) Multidisciplinary CE 566 Eng. Hydrology (Pre: CE 214 (C min), CE 365) (S) CE 583 Air Poll. and Control (Pre: Math 391; co: CE 474) or CE 584 Solid Waste Mgmt. (Co: CE 474) (F) CE 440 FEA (Pre: CE 315, CE 340; Math 346) (S) CE 442 Structural Design (Pre: CE 214 (C min), CE 340) (F) CE 520 Traffic Engineering (Pre: CE 326, CE 327) (F) CE 540 Highway Eng. (Pre: CE 326, CE 327) (S) | | Specialization Elective Courses (code: F=fall, FE= fall even, FO = fall odd, S= spring, SE= spring even, SO = spring odd) Environmental Engineering and Water Resources CE 51003 Independent Study (consent) CE 482 Water and Wastewater Treatment (Pre: CE 474) (FO) CE 583 Air Pollution & Control (Pre: Math 391; Co: CE 474) (FO) CE 584 Solid Waste Management (Co: CE 474) (FE) CE 571 Water Quality Analysis (Pre: CE 474) (SO) ENGR 59910 Intro to GIS (Pre: CE 214, C min) (F) ENGR 30100 Intro. to Sensing (Pre: Phy 208, ENGR 103) (S) Chem 26100 Organic Chemistry (Pre: Chem 104) Structures CE 51003 Independent Study (consent) CE 530 Adv. Strength (Pre: CE 332, CE 315, Math 346) (F) CE 540 Highway Engineering (Pre: CE 326, CE 327) (S) CE 550 Adv. Reinforced Concrete (Pre: CE 315, CE 441) (F) CE 555 Concrete Sustainability (Pre: CE 340) (SE) CE 556 Design of Wood Structures (Pre: CE 214 (C min), CE 340) (SO) CE 590 Foundation Engineering (Pre: CE 315, CE 345) (S) ME 461 Eng. Materials (Pre: Chem 103, Engl 210, CE 332) | | | |
| | | Transportation CE 51003 Independent Study (consent) CE 526 Rail System Design (Pre: CE 327) (FE) CE 541 Highway & Airport Design (Pre: CE 326, CE 327) (FO) CE 545 Urban Transportation Systems (Pre: CE 326) (SE) CE 547 Urban Freight & City Logistics (Pre: CE 326) (SO) CE 548 Transit Systems (Pre: CE 326) (FE) CE 566 Engineering Hydrology (Pre: CE 214 (C min), CE 365) (S) CE 590 Foundation Engineering (Pre: CE 315, CE 345) (S) ENGR 59910 Intro to GIS (Pre: CE 214 (C min), (F) Multidisciplinary CE 566 Engineering Hydrology (Pre: CE 214 (C min), CE 365) (S) CE 583 Air Pollution and Control (Pre: Math 391; Co: CE 474) CE 584 Solid Waste Management (Co: CE 474) (F) CE 440 FEA (Pre: CE 315, CE 340; Math 346) (S) CE 442 Structural Design (Pre: CE 214 (C min), CE 340) (F) CE 520 Traffic Engineering (Pre: CE 326, CE 327) (F) CE 540 Highway Engineering (Pre: CE 326, CE 327) (S) One CE or ENGR course from the specialization electives lists for environmental, structures or transportation specializations | | | |

- The latest version of the curriculum sheet supersedes any curriculum and pre/co-requisite information in the Undergraduate Bulletin or online.
- "C" Passing Grade Requirement: Courses in shaded area (■) require a minimum passing grade of "C".
- Skills tests: Certain students may be required to pass CUNY Assessment Tests in one or more subjects within 1 or 2 years of admission.
- Liberal Arts electives: CE students must take six approved courses (18 credits) of which at least two (6 credits) must be at the 20000 level or higher. Four of the courses should satisfy Flexible Core (Pathways) liberal arts requirements in the Creative Expression (CE), World Cultures & Global Issues (WCGI), Individual & Society (IS), and U.S. Experience (US) areas. Prior courses in these four areas from other colleges can satisfy the electives. The remaining two courses must be chosen from the list on the Grove School of Engineering web site at ccny.cuny.edu/engineering/gen-ed. See ccny.cuny.edu/engineering/pathways for details and the Pathways course lists. A prior degree may remove the requirement of all six courses.
- Other Graduation Requirements: Apply for graduation during registration for the last semester. Minimum GPA of 2.00. Minimum QPA of zero. Residency Requirement: 33 credits of 30000-level or higher Civil Engineering courses taken at CCNY.
- Program Changes: Substitution of other courses for required courses must be approved by the Chair of the Civil Engineering Department (ST-136), and the Associate Dean of the Office of Undergraduate Affairs (ST-209).
- Students can satisfy this requirement by passing the Fundamentals of Engineering licensing examination.

Total Credits: 134 – 135.