

Civil Engineering Curriculum  
Fall 2020 – Spring 2021

<b>Math 20100</b> Calculus I Pre: Math 19500 (C min.) 4 cr.	<b>Chem 10301</b> General Chemistry I Pre: Math 19500 (C min.) 4 cr.	<b>CSc 10200</b> Introduction to Computing Pre: Math 19500 (C min.) or Pre/Co: Math 20100 (C min.) 3 cr.		<b>Engl 11000<sup>6</sup></b> Freshman Composition 3 cr.	<b>Liberal Arts<sup>4</sup></b> 3 cr.
<b>Math 21000</b> Calculus II Pre: Math 20100 (C min.) 4 cr.	<b>Chem 10401</b> General Chemistry II Pre: Chem 10301 (C min.) 4 cr.	<b>Phys 20700</b> General Physics I Pre/Co: Math 21200 4 cr.	<b>Engl 21007</b> Writing for Engineering Pre: Eng 11000 or FIQWS 3 cr.		<b>Liberal Arts<sup>4</sup></b> 3 cr.
<b>Math 21300</b> Calculus III Pre: Math 21200 (C min.) 4 cr.	<b>CE 23100</b> Statics Pre: Phys 20700 (C min.), Math 21200 (C min.) & CSc 10200; Pre/Co: Math 21300 3 cr.	<b>Phys 20800</b> General Physics II Pre: Phys 20700 Pre/Co: Math 21300 4 cr.	<b>CE 26400</b> CE Data Analysis Pre: CSc 10200 Pre/Co: Math 21300, Engl 21007 3 cr.	<b>CE 20900</b> Structural and Site Plans Pre/Co: CSc 10200 3 cr.	<b>CE 10100 (Fall only)</b> Intro to Civil Engineering Pre: Phys 20700 (C min.); Co: Engl 21007 1 cr.
<b>Math 39100</b> Differential Equations Pre: Math 21300 3 cr.	<b>Math 34600</b> Linear Algebra <b>Or Math 39200</b> Linear Algebra/Vector Analysis Pre: Math 21300 3 cr.	<b>CE 35000</b> Fluid Mechanics Pre: CE 23100 (C min.), CSc 10200 Pre/Co: CE 10100, Math 39100 (C min.) 3 cr.	<b>CE 33200</b> Mechanics Deformable Bodies Pre: CE 23100 (C min.) Pre/Co: Math 39100 (C min.), CE 10100, & CE 26400 4 cr.	<b>CE 31500</b> Computational Methods in CE Pre: CE 26400 & CE 23100, CSc 10200 Pre/Co: Math 34600 (or Math 39200), CE 10100, Math 39100 (C min.) 3 cr.	
<b>CE 34000</b> Structural Analysis Pre: CE 33200, CE 20900 Pre/Co: CE 31500 & Math 34600 or Math 39200 3 cr.	<b>CE 36500</b> 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.	<b>CE 32600 (Fall Only)</b> Transportation Planning Pre: CE 26400 Pre/Co: CE 31500 3 cr.	<b>CE 31600 (Fall only)</b> CE Decision & Systems Analysis Pre: CE 26400, CE 31500 & Math 34600 or Math 39200 3 cr.	<b>CE 37200</b> Environmental Impact Assessment Pre for CE majors: CE 26400, Chem 10401 (C min.), & CE 35000 (C min.). Pre for ESE majors: CE 26400, Chem 10401 (C min.), & [CE 35000 (C min) or ME 35600 or ChE 34100] 3 cr.	<b>Liberal Arts<sup>4</sup></b> 3 cr.
<b>CE 34500</b> Soil Mechanics Pre: CE 35000 (C min.), CE 26400 & CE 33200 3 cr.	<b>CE 44100</b> Reinforced Concrete Pre: CE 26400 & CE 34000 3 cr.	<b>CE 32700 (Spring only)</b> Transportation Systems Engr. Pre: CE 20900, CE 26400, CE 33200 3 cr.	<b>CE 47400</b> Environment Engineering Pre: CE 36500 & CE 37200 3 cr.	<b>CE 40500 (Spring only)</b> Civil Engineering Management Pre: CE 31600, CE 34000 3 cr.	<b>Liberal Arts<sup>4</sup></b> 3 cr.
<b>Specialization Core</b> (Select one of four areas) 3 cr.	<b>Specialization Electives</b> (In same area) 3 cr.	<b>CE 43500 (Fall only)</b> Dynamics of CE Systems Pre: CE 33200, CE 31500, Math 34600 (or Math 39200) 3 cr.	<b>Science Elective</b> <b>EAS 32800</b> Global Environ. Haz 3 - 4 cr. Or <b>Bio 10100</b> Bio Foundations Pre: Math 19500 (C min.) 3 cr.		<b>Liberal Arts<sup>4</sup></b> (20000 or higher) 3 cr.
<b>Specialization Core</b> (In same area) 3 cr.	<b>Specialization Electives</b> (In same area) 3 cr.	<b>CE 40100<sup>7</sup> ((Spring Only)</b> Review of Civil Eng'ng Fundamentals (Pass/Fail) Pre: Upper junior or senior standing 1 cr.	<b>CE 50900</b> Senior Design Project Pre: senior standing Pre/Co: CE 32600, CE 32700, CE 47400 & CE 44100 3 cr.	<b>Engineering Science Elective</b> <b>Engr 23000</b> Thermodynamics Pre: Chem 10301 (C min.), Pre/Co: Phys 20800 (C min.) & Math 21300 (C min) 3 cr. Or <b>Engr 20400</b> Electrical Circuits Pre/Co: Phys 20800 (C min), Math 21300 (C min) 3 cr.	<b>Liberal Arts<sup>4</sup></b> (20000 or higher) 3 cr.
<b>Specialization Core Courses</b>		<b>Specialization Elective Courses</b> (code: F=fall, FE= fall even, FO = fall odd, S= spring, SE= spring even, SO = spring odd)			
<b>Environmental Engineering and Water Resources</b> CE 566 Eng. Hydrology (Pre: CE 264, 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) <b>Structures</b> CE 440 FEA (Pre: CE 315, CE 340; Math 346) (S) CE 442 Structural Design (Pre: CE 264, CE 340) (F) <b>Transportation</b> CE 520 Traffic Engineering (Pre: CE 326, CE 327) (F) CE 540 Highway Eng. (Pre: CE 326, CE 327) (S) <b>Multidisciplinary</b> CE 566 Eng. Hydrology (Pre: CE 264, 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 264, CE 340) (F) CE 520 Traffic Engineering (Pre: CE 326, CE 327) (F) CE 540 Highway Eng. (Pre: CE 326, CE 327) (S)		<b>Environmental Engineering and Water Resources</b> 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 264) (F) ENGR 30100 Intro. to Sensing (Pre: Phy 208, ENGR 103) (S) Chem 26100 Organic Chemistry (Pre: Chem 104) <b>Structures</b> 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 264, CE 340) (SO) CE 590 Foundation Engineering (Pre: CE 315, CE 345) (S) ME 461 Eng. Materials (Pre: Chem 103, Engl 210, CE 332)			
		<b>Transportation</b> 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 264, CE 365) (S) CE 590 Foundation Engineering (Pre: CE 315, CE 345) (S) ENGR 59910 Intro to GIS (Pre: CE 264) (F) <b>Multidisciplinary</b> CE 566 Engineering Hydrology (Pre: CE 264, 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 264, 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](http://ccny.cuny.edu/engineering/gen-ed).
- See [ccny.cuny.edu/engineering/pathways](http://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: 136 – 137.