

Major: Civil Engineering (CE)

Accredited by ABET (see inside front cover.)

Offered by: **School of Civil and Environmental Engineering**

221 Hollister Hall, 607 255-3412, www.cee.cornell.edu

Program objectives

We are dedicated to providing the highest-quality broad-based technical, scientific, and liberal education. We create and maintain an outstanding educational program in a climate that fosters diverse skills designed for professional success. Our objectives are to prepare our students for:

- excellence in engineering decision-making and design,
- leadership careers in engineering practice,
- graduate professional engineering education,
- advanced study and research in engineering, and
- diverse, alternative career choices.

Engineering Distributions

ENGRD 202 Mechanics of Solids (required)

Recommended Distributions:

ENGRD 261 Introduction to Mechanical Properties of Materials (strongly recommended for students interested in civil infrastructure)

ENGRD 211 Computers and Programming (recommended for students interested in transportation engineering)

ENGRD 221 Thermodynamics (recommended for students interested in hydraulics)

ENGRD 241 Engineering Computation¹ (recommended for all students)

Required Major Courses

ENGRD 203/CEE 478 Dynamics/Structural Dynamics and Earthquake Engineering

ENGRD 241 Engineering Computation

CEE 304 Uncertainty Analysis in Engineering¹

CEE 323 Engineering Economics and Management

CEE 331 Fluid Mechanics

CEE 341 Introduction to Geotechnical Engineering and Analysis

CEE 351 Environmental Quality Engineering²

CEE 361 Introduction to Transportation Engineering²

CEE 371 Structural Modeling and Behavior

Electives

Technical communications course (ENGRD 335, 350, COMM 260, 263, 352 or BEE 489)³

Three CEE design courses⁴

Two Major-approved electives⁴

Two approved electives

¹Students using this course as a second engineering distribution must take an additional Major-approved elective.

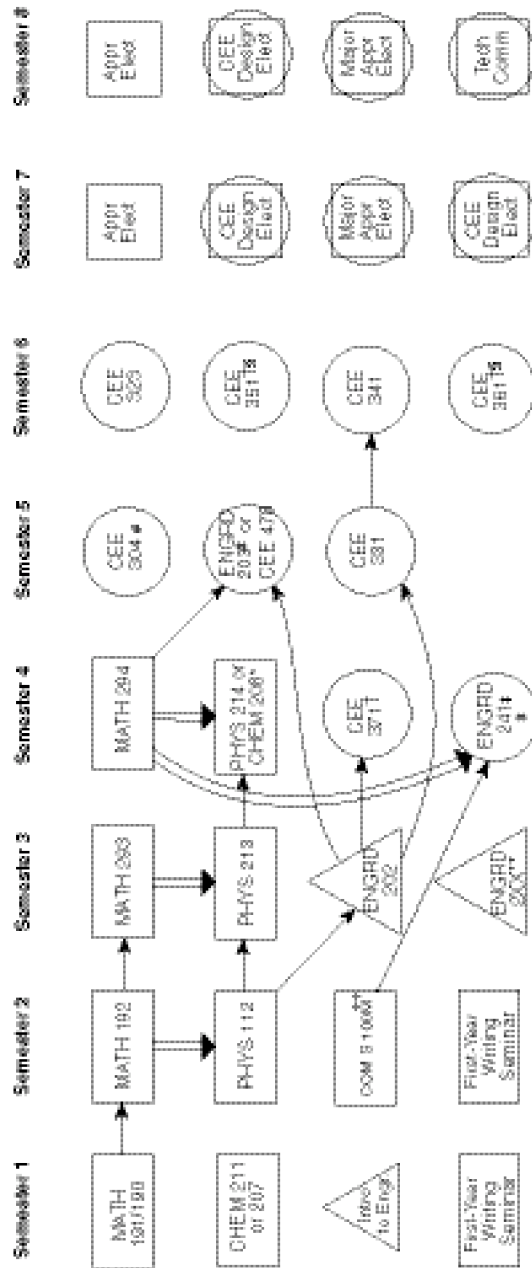
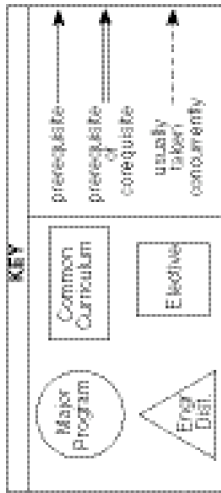
²Students interested in pursuing a concentration in civil infrastructure (geotechnical and structural engineering) may substitute either CEE 471 for either CEE 351 or CEE 361, if they also complete either CEE 473 or 474. However, CEE 471 then counts as a Core Course only and not as one of the five CCE Design Courses or Major-approved Electives.

³If the technical communications is met with a course that fulfills another requirement (liberal studies, Major-approved Elective, etc.), then the student must substitute an additional approved elective for this requirement.

⁴To be chosen from lists available in the CE Major office, 221 Hollister Hall. Lists of suggested courses are available for students interested in structural engineering, transportation engineering, fluid mechanics/hydrology, geotechnical engineering, and water resources and environmental systems engineering.

CIVIL ENGINEERING MAJOR (CE)

- †† Core 8 100 Min. minimums noted
- * May substitute CEEB 200 for PHYS 214
- ‡ Students may take CEE 341, 349, or 351 in semester 4, depending on their interests.
- § Students may substitute either CEE 471 for either CEE 365 or CEE 367, if they also complete CEE 475 or 474. Students/CEE 471 then counts as a Core Course only and not as one of the five CE Design Courses or Major-approved electives.
- ¶ Recommended: ENGRD 202 for Infrastructure; ENGRD 203 for Hydraulics; ENGRD 211 for Transportation
- ‡ ENGRD 201 may be taken in semesters 4 or 5; ENGRD 201 can be used to satisfy both the computer applications requirement and a major program requirement.
- ‡ Students taking ENGRD 203, 204 or CEE 304 as a second engineering discipline must take an additional major approved elective.



Civil Engineering Major Checklist

	<i>Min.</i> <i>Credit Hours</i>	<i>✓ When Done</i>
MATH 191 (or 190)	4	n
MATH 192	4	n
MATH 293	4	n
MATH 294	4	n
CHEM 211 (or 207 or 215)	4	n
PHYS 112 (or 116)	4	n
PHYS 213 (or 217)	4	n
PHYS 214 (or 218 or CHEM 208 or 216)	4	n
COM S 100	4	n
Intro. to Engr.: (ENGR1 1XX)	3	n
Engr. Dist. 1: ENGRD 202 (required)	3	n
Engr. Dist. 2§	3	n
First-Year Writing Seminar 1†	3	n
First-Year Writing Seminar 2†	3	n
Liberal Studies Distribution—6 courses (18-credit minimum)‡	18	
Lib. Studies 1		n
Lib. Studies 2		n
Lib. Studies 3		n
Lib. Studies 4		n
Lib. Studies 5		n
Lib. Studies 6		n
Approved Elective (2 courses; 6-credit minimum)	6	n
Approved Elective		n
Physical Education (2 semesters) and swim test		n
Required Major Courses (49-credit minimum)‡		
ENGRD 203	3	n
ENGRD 241††	3	n
CEE 304††	4	n
CEE 323	3	n
CEE 331	4	n
CEE 341	4	n
CEE 351**	3	n
CEE 361**	3	n
CEE 371	4	n
Technical Writing Course†	3	n
CEE Design Elective	3	n
CEE Design Elective	3	n
CEE Design Elective	3	n
Major-Approved Elective	3	n
Major-Approved Elective	3	n
 Total Required Credits	 124 min.	 _____
Additional Elective Courses (0 credits min., no max.)		n

§Recommended: ENGRD 261 for Civil infrastructure; ENGRD 221 for hydraulics; ENGRD 211 for transportation; ENGRD 241## for all students.

‡In addition to the first-year writing seminars, a technical writing course must be taken. An approved COMM course, any ENGRC course or BEE 489 will satisfy this requirement. If the course fulfilling the technical elective requirement also fulfills another requirement (liberal studies, Major-approved elective), an additional approved elective must be taken.

‡Approved courses must be chosen from at least three of the following six groups: (1) Cultural Analysis (CA), (2) Historical Analysis (HA), (3) Literature and the Arts (LA), (4) Knowledge, Cognition, and Moral Reasoning (KCM), (5) Social and Behavioral Analysis (SBA), (6) Foreign Languages (not literature courses). At least two courses must be from the first three groups (CA, HA, LA). At least two of the six courses must be at 200-level or higher.

9 credits of electives are determined by Major approval. To ensure breadth of engineering studies, Major programs also will include 9 hours of courses outside the Major. This group of courses may be comprised of ENGRD 202, ENGRD 203, one engineering distribution or elective, and/or a CE Major course outside the Major disciplinary area.

††Students electing to use this course as a second engineering distribution must take an additional Major-approved elective.

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