

ENVIRONMENTAL ENGINEERING MAJOR

DEGREE REQUIREMENTS

A student earning a Bachelor of Science degree in the Environmental Engineering major must complete the following academic requirements, which apply to students matriculating in the fall semester of 2009 or later. A minimum of 126 credit hours is required.

Group	Subject Matter	Credit Hours
1.....	Mathematics (1910, 1920, 2930, 2940) All math courses in this sequence must be completed with a grade of C- or better.	16
2.....	Chemistry General Chemistry (2090, 2070 or 2150) Organic Chemistry (1570 recommended or 3570)	7
3.....	Physics Calculus-based physics (1112, 2213 or 2217)	8
4.....	Computer Programming Intro to Computing (CS 1110, CS 1112 or BEE 1510 and CS 1130 or CS 1132)	5
5.....	Biological Sciences Introductory Biology (BIOG 1101/1103, 1102/1104, 1105, 1106, 1107, 1108, 1109, or 1110) ^a	3-4
6.....	Written Expression First Year Writing Seminars	6
7.....	Engineering Distribution and Field Courses (all must be taken for letter grade)..... <i>Introduction to Engineering</i> ENGR1 XXXX (3 credits) (ENGR1 1130 is recommended) ^b , or The BEE Experience - BEE 1200 [required for students matriculating in CALS] (1 credit) <i>Engineering Distribution Courses</i> ^a Engineering for a Sustainable Society - ENGRD/BEE 2510 (3 credits) ENGRD XXXX - (ENGRD 2020, 2210, or 3200 are recommended) (3-4 credits) <i>Environmental Engineering Core Courses</i> Mechanics of Solids ^a - ENGRD 2020 (4 credits) Engineering Computation - CEE/ENGRD 3200 (3 credits) or Thermodynamics - ENGRD 2210 (3 credits) ^a Uncertainty Analysis in Engineering - CEE 3040 (4 credits) ^{a, c} Engineering Management - BEE 4890 or CEE 3230 (3 or 4 credits) Fluid Mechanics - CEE 3310 (4 credits) Earth Science (select one course) - EAS 2200, EAS 2680, EAS 3030, or CSS 3650 (3 or 4 credits) Environmental Quality Engineering - CEE 3510 (3 credits) Microbiology for Environmental Engineering - CEE 4510 (3 credits) ^d Engineering Laboratory (select one course) - BEE 4270, CEE 4530, CEE 4370, or CEE 6580 (3 or 4 credits) Environmental Systems Analysis - BEE 4750 (3 credits) Environmental Engineering Design Electives (9 credits) (see list of approved courses on page 12, at least one course from the list of Capstone Design) Environmental Engineering Major-Approved Electives (6 credits) (see list of approved courses on page 12) Other Environmental Engineering Electives to bring total category to 57 credits. These will generally consist of technical engineering courses at 2000 level or above from BEE or College of Engineering. A maximum of 4 credits of BEE 4970-4990 or CEE 3090, 4010 may be used in this category. Technical Writing Course. Approved technical communication courses are listed in the <i>Courses of Study</i> , College of Engineering section. BEE 4730 or BEE 4890 are on the approved list. ^e	57

DEGREE REQUIREMENTS (CONTINUED)

Group	Subject Matter	Credit Hours
8.....	Liberal Studies (6 courses)..... Liberal Studies courses are listed in the <i>Courses of Study</i> , College of Engineering section. At least six courses must be completed, including at least three of the six categories: 1. Cultural Analysis (CA) 2. Historical Analysis (HA) 3. Literature and the Arts (LA) 4. Knowledge, Cognition, and Moral Reasoning (KCM) 5. Social & Behavioral Analysis (SBA) 6. Foreign Language (not literature) At least 2 courses must be 2000 level or higher.	18
9.....	Approved Electives These courses are selected by the student with approval of the Faculty Advisor.	6
TOTAL MINIMUM		126

^aStudents taking BIOG 1101/1103, 1105, 1107, or ENGRD 2020, 2210, 3200, 2700, or CEE 3040 as a second engineering distribution must take an additional major-approved elective.

^bBEE 1510 and BEE 1200 together (5 credits) satisfy the ENGRI requirement for CALS matriculated first-year students. Students using BEE 1510 and BEE 1200 to satisfy the ENGRI requirement must make up the 2 credit difference with engineering coursework.

^cENGRD 2700 will be accepted (by petition) to substitute for CEE 3040 if taken prior to affiliation with the Environmental Engineering Major, or if necessary because of scheduling conflicts caused by Co-op or Study Abroad.

^dStudents may take BIOMI 2900 in place of CEE 4510.

^eStudents meeting the technical communications requirement with a course that fulfills another requirement (e.g. Liberal Studies, Major-Approved Elective), may use it to satisfy both requirements.

Physical Education

Two semesters of physical education are required. All students must pass a swim test prior to graduation. Transfer students are exempted from one semester of PE for each full-time semester they transfer into Cornell.

Special Courses

Courses such as PHYS 1012 do not count toward graduation requirements. Academic Excellence Workshops (ENGRG 1091, 1092, 1093 and 1094) may not be used as Engineering Electives, but may be used as Approved Electives (area 9).

Additional program information is provided in the College of Engineering section of the *Courses of Study* and in the College of Engineering *Undergraduate Handbook*.