**Design Courses and Major-Approved Electives for the Civil Major**

Students must take a total of five courses from the following lists of electives (one list for CEE electives, one list for out-of-major electives). At least three of these courses must be CEE Design Courses (designated by an asterisk), one of which must be a "capstone" course (designated by **bold** type).

* BEE 4730 Watershed Engineering (F,4)
  BEE 4750 Environmental System Analysis (F,3)
* BEE 4760 Solid Waste Engineering (S,3)
  CEE 3720 Intermediate Solid Mechanics (F,4)
* CEE 4110 Remote Sensing for Environmental Resource Inventory (F,3)
  CEE 4320 Hydrology (S,3)
* CEE 4350 Coastal Engineering (Next Offered 2013-2014) (S,4)
  CEE 4370 Experimental Methods in Fluid Dynamics (S,3)
* CEE 4400 Foundation Engineering (F,3)
* CEE 4410 Retaining Structures and Slopes (S,3)
  CEE 4450 Soil Dynamics and Geotechnical Earthquake Engineering (S,3)
  CEE 4510 Microbiology for Environmental Engineering (F,3)
  CEE 4530 Laboratory Research in Environmental Engineering (Next Offered 2013-2014) (F,3)
* CEE 4540 Sustainable Municipal Drinking Water Treatment (F,3)
  CEE 4550 AguaClara: Sustainable Water Supply Project (F, S, 3)
  CEE 4630 Future Transportation Technologies and Systems (F,3)
* CEE 4640 Transportation Systems Design (Next Offered 2013-2014) (S,3)
  CEE 4650 Transportation, Energy and Environment Systems for Sustainable Development (Next Offered 2013-2014) (S,3)
  CEE 4710 Fundamentals of Structural Mechanics (F,Su,3)
* CEE 4730 Design of Concrete Structures (F,4)
* CEE 4740 Introduction to the Behavior of Metal Structures (S,4)
  CEE 4750 Concrete Materials and Construction (S,3)
  CEE 4780 Structural Dynamics and Earthquake Engineering (S,3)
* CEE/BEE 4810 LRFD-Based Engineering of Wood Structures (S,3)
  CEE 5240 Model Based Systems Engineering (F,3)
  CEE 5290 Heuristic Methods of Optimization (F,3 or 4)
  CEE 5930 Engineering Management Methods (F,4)
  CEE 5950 Construction Planning and Operations (F,3)
  CEE 5970 Risk Analysis and Management (S,3)
  CEE 6100 Remote Sensing Fundamentals (F,3)
  CEE 6310 Computational Simulation of Flow and Transport in the Environment (S,3)
* CEE 6370 Experimental Methods in Fluid Dynamics (S,4)
  CEE 6550 Transport, Mixing, and Transformation in the Environment (F,3)
  CEE 6570 Biological Processes (S,3)
  CEE 6580 Biodegradation and Biocatalysis (S,3)
  CHEME 6610 Air Pollution Control (S,3)
  EAS 4570 Atmospheric Air Pollution (F,3)
  EAS/MAE 6480 Air Quality and Atmospheric Chemistry (Next Offered 2013-2014) (F,3)
  ORIE 3310 Optimization II (S,Su,4)
  ORIE 4330 Discrete Models (Next Offered 2013-2014) (F,4)
Not offered for the next two years

* CEE 4060 Civil Infrastructure Systems (S,3)
* CEE 4440 Environmental Site and Remediation Engineering (S,3)
  CEE 4720 Introduction to the Finite Element Method (F,3)
* CEE 4920 Engineers for a Sustainable World (F,3)
  CEE 5960 Management Issues in Forensic Engineering (F,3)
  CEE 6230 Environmental Quality Systems Engineering (F,3)
  CEE 6330 Flow in Porous Media and Groundwater (S,3)

In addition, in consultation with their advisors, students may petition for other upper level (≥ 4000) CEE courses to be considered to meet the Design or Major-Approved Electives. Students are also able to petition for other courses outside the major to count towards a Major-Approved Elective if it meets the following criteria: a technical course which has either a technical prerequisite beyond the common curriculum or an advanced standing (4000 level or above and is limited to Juniors or above).