

Electrical Engineering Requirements and Sample Schedule

(from the 2009-2010 Union College Academic Register)

Requirements for the Major: a total of 40 courses including the following:

- Math and Science: (Math 113*, 115, 117, Physics 120, 121) or (IMP 111, 112, 113), Math 130; one science elective numbered 100 or higher (Chemistry 101, Physics 122, or Physics 123 are recommended); one Math or Science elective numbered 100 or higher.
*Other calculus sequences are possible depending upon a student's background.
- Engineering and Computer Science: ESc 100; one from (CSc 103-109); one engineering elective (Bioengineering, Mechanical Engineering or Engineering Science are recommended)
- Electrical Engineering Core: ECE 118, 225, 240, 241, 248, 343, 350, 351, 363, 366
- Electrical Engineering Electives: 3 additional ECE courses numbered 300 or higher. Students may also enroll in graduate engineering courses offered through Union Graduate College. Please see the Union Graduate College catalog for course descriptions and joint degree program options.
- Capstone Design: ECE 497 (1/2), 498 (1/2), 499
- Electives and General Education: 13 courses should be chosen in consultation with the student's advisor to enhance one or more of the program objectives and meet remaining general education requirements.

Requirements for the Minor: ECE 118, 225, 240, 248; Electives: one from (ECE 241, 318, 341, 363, 366), and one from (ECE 333, 348, 350, 352, 360).

Requirements for Honors in Electrical Engineering: In addition to meeting all of the general college requirements for honors, candidates for honors in electrical engineering must present their senior project at the Steinmetz Symposium.

Sample schedule starting with Math 113: Students with different math backgrounds will have slightly different math sequences. ECE courses should be taken in the indicated terms to meet program prerequisites.

First Year

Fall: Elective*, ESc 100, MTH 113

Winter: Elective*, MTH 115, PHY 120, CSc 103-109**

Spring: Elective*, MTH 117, PHY 121

Second Year

Fall: Elective*, ECE 118, ECE 225

Winter: ECE 240, Math 130, Engineering Elective

Spring: Electives(2)*, ECE 241, ECE 248,

Third Year

Fall: Term abroad option*** or Electives*

Winter: Elective*, ECE 343, ECE 366, Science elective

Spring: Elective*, ECE 350, ECE 497(1/2), Math/Science elective

Fourth Year

Fall: ECE 351, ECE 363, ECE elective 1, ECE 498(1/2)

Winter: ECE elective 2, ECE 499, Elective*

Spring: ECE elective 3, Elective*, Elective*

* Electives should be chosen to enhance one or more of the program objectives and meet remaining general education requirements. Students should work with their academic advisor to develop an appropriate plan of study.

** One course from CSc 103-109 should be taken during the first year.

*** The fall term of the third year is the recommended term for going on a full term abroad. Students who do not go on a fall term abroad may take ECE 351 and ECE 363 or electives.