EE - Power/ Systems & Controls Plan of Study

Fresh 1 Fall	Qtr 1	MATH 121 Calculus I 4 cr	ENGR 100 CAD 1 cr	CHEM 101 Chemistry I 3.5 cr	ENGR 101 Freshman Design I 2 cr	ENGR 121 Computation Lab I 2 cr ENGR 122 Computation Lab III 1 cr	ENGL 101 3 CR UNIV 101 1 CR
Fresh 2 Winter	Qtr 2	MATH 122 Calculus II 4 cr	PHYS 101 Physics I 4 cr	CHEM 102 Chemistry II 4.5 cr	ENGR 102 Freshman Design II 2 cr		ENGL 102 3 CR UNIV 101 .5 CR
Fresh 3 Spring	Qtr 3	MATH 200 Multivariable Calculus 4 cr	PHYS 102 Physics II 4 cr	BIO 141 Essential Biology 4.5 cr	ENGR 103 Freshman Design III 2 cr		ENGL 103 3 CR UNIV 101 .5 CR
Soph 1 Fall/Sp	Qtr 4	ENGR 231 Linear Eng Systems 3 cr	PHYS 201 Physics III 4 cr	ENGR 220 Materials 4 cr	ECE 200 Logic 3 cr	ENGR 201 Evaluation & Presentation of Experimental Data 3 cr	
Soph 2 W/Sum	Qtr 5	ENGR 232 Dynamic Eng Systems 3 cr	Choice* 3 cr	ECE 203 Programming for Eng 3 cr	ECE 201 Circuits 3 cr	ENGR 202 Evaluation & Presentation of Experimental Data 3 cr	
Pre-J 1 Fall/Sp	Qtr 6	ECES 301 Transform Methods 4 cr	ECEE 302 (ECE Elective) Electronic Devices 4 cr	ECE 361 Probability for Engineers 3 cr	ECEL 301 ECE Lab. I 2 cr	General Education Elective 3 cr	
Pre-J 2 W/Sum	Qtr 7	ECES 303 Transform Methods II 3 cr	ECES 304 Dynamic Systems & Stability 4 cr	Math 291 (Math Elective) Complex & Vector Analysis 4 cr	ECEL 302 ECE Lab. II 2 cr	General Education Elective 3 cr	
Junior 1 Fall/Sp	Qtr 8	ECE Elective 3-4 cr	ECES 356 (ECE Elective) Theory of Control 4 cr	ECE Elective 3-4 cr	ECEL 303 ECE Lab. III 2 cr	General Education Elective PHIL 315 3 CR	ECE 391 Intro to Design 1 cr (Spring or Winter)
Junior 2 W/Sum	Qtr 9	Free Elective 3 cr	ECEP 352 (ECE Elective) Elec Motor Cntrl 4 cr	ECE Elective 3-4 cr	ECEL 304 ECE Lab. IV 2 cr	General Education Elective 3 cr	ECE 391 Intro to Design 1 cr (Winter or Spring)

Senior 1 Fall	**Qtr 10**	**ECE 491 Senior Design I 2 cr**	**General Education Elective 3 cr**	**ECE Elective 3-4 cr**	**Free Elective 3 cr**	**ECEP 411 (ECE Elective) Power Systems I (Pre-req: ECEP 352) 3 cr or (ECE Elective) ECES 444 Sys & Controls I (Pre-req: ECES 356) 4 cr**
Senior 2 Winter	**Qtr 11**	**ECE 492 Senior Design II 2 cr**	**General Education Elective 3 cr**	**ECE Elective 3-4 cr**	**Free Elective 3 cr**	**(ECE Elective) ECEP 412 Power Systems II (Pre-req: ECEP 411) 4 cr or (ECE Elective) ECES 445 Sys & Controls II (Pre-req: ECES 444) 4 cr**
Senior 3 Spring	**Qtr 12**	**ECE 493 Senior Design III 4 cr**	**General Education Elective 3 cr**	**ECE Elective 3-4 cr**	**Free Elective 3 cr**	**(ECE Elective) ECEP 413 Power Systems III (Pre-req: ECEP 412) 3 cr or (ECE Elective) ECES 446 Sys & Controls III (Pre-req: ECES 445) 4 cr**

Notes:

- 192 Credits are needed for graduation. In addition, an ECE student must have a 2.0 cumulative overall GPA and a 2.0 cumulative GPA in their ECE courses.
- General Education Electives are seven courses taken from the COE approved list. One of these courses must be PHIL 315.
- ECES 301 Transforms Methods I and ECES 303 Transform Methods II are required for all EE majors.
- ECE Electives (ECEX courses) are 13 courses or at least 42 credits of ECEX courses. At least 9 credits must be in the major at the 400-level or higher. Up to 12 credits of ECE Electives may be taken from other COE departments or BIOMED or Computer Science as long as the courses are at the 300-400 level. Note: ECEP 404 or ECEP 371 Intro to Nuclear Engineering does not count as an ECE Elective unless combined with PHYS 330.
- * Choice courses may include PHYS 202 Fundamentals of Physics IV, ENGR 210 Thermodynamics, MATH 221 Discrete Math, CHEM 103 Chemistry III or a BIO/BMES courses with ECE Department approval.
- Math Elective is a 3-4.5cr course from MATH at a 200-level or higher. MATH 291 (Complex & Vector Analysis) is encouraged for EE Majors, and MATH 221 (Discrete Math) is encouraged for CE Majors.
- The number of free elective credits will depend on the individual plan of study. Students who have taken 4 credit ECE elective courses will need fewer free elective credits. Those who took 3 credit courses will need more. The total of all credits taken must add to at least 192 for the EE degree.