

# 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	CS 121 Computation Lab I 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	CS 122 Computation Lab II 1 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	CS 123 Computation Lab III 1 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/Su	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/S	Qtr 6	ECES 302 Transform Methods 4 cr	ECEE 302 (ECE Elective) Electronic Devices 4 cr	Math 291 (Math Elective) Complex & Vector Analysis 4 cr	ECEL 301 (or ECEL 311) ECE Lab. I 2 cr	General Education Elective 3 cr	
Pre-J 2 W/Su	Qtr 7	Transform Methods II 3 cr	ECES 304 Dynamic Systems & Stability 4 cr	ECE 361 Probability for Engineers OR ECE 362 Engineering Statistics 3 cr	ECEL 302 (or ECEL 312) 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/Su	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	

<b>Senior 1 Fall</b>	<b>Qtr 10</b>	<b>ECE 491 Senior Design I 2 cr</b>	<b>General Education Elective 3 cr</b>	<b>ECE Elective 3-4 cr</b>	<b>Free Elective 3 cr</b>	<b>(ECE Elective) ECEP 411 Power Systems I 3 cr or (ECE Elective) ECES 444 Sys &amp; Controls I 4 cr</b>
<b>Senior 2 Winter</b>	<b>Qtr 11</b>	<b>ECE 492 Senior Design II 2 cr</b>	<b>General Education Elective 3 cr</b>	<b>ECE Elective 3-4 cr</b>	<b>Free Elective 3 cr</b>	<b>(ECE Elective) ECEP 412 Power Systems II 4 cr or (ECE Elective) ECES 445 Sys &amp; Controls II 4 cr</b>
<b>Senior 3 Spring</b>	<b>Qtr 12</b>	<b>ECE 493 Senior Design III 4 cr</b>	<b>General Education Elective 3 cr</b>	<b>ECE Elective 3-4 cr</b>	<b>Free Elective 3 cr</b>	<b>(ECE Elective) ECEP 413 Power Systems III 3 cr or (ECE Elective) ECES 446 Sys &amp; Controls III 4 cr</b>

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.
- ECE Electives (ECEX Elective) are at least 45 credits of ECE courses. At least 9 credits must be in the major at the 400-level or higher. Up to 12 credits may be taken from other COE or BIOMED majors. ECE 101 and ECE 102 in combination can count as 1 ECE Elective.
- \* 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 course with Dept 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.