

Electrical Engineering (Bioengineering)

123 credit hours total

YEAR 1		YEAR 2		YEAR 3		YEAR 4	
FALL	SPRING	FALL	SPRING	FALL	SPRING	FALL	SPRING
*MATH 220 (4) Analytic Geometry and Calculus I KSC-3	*MATH 221 (4) Analytic Geometry and Calculus II PR: MATH 220 ≥ C	MATH 340 (4) Elementary Differential Equations PR: MATH 221 ≥ C	MATH 222 (4) Analytic Geometry and Calculus III PR: MATH 221 ≥ C	ECE 431 (3) Microcontrollers PR: ECE 241, CIS 209	ECE 512 (3) Linear Systems PR: ECE 410 or 519, ECE 540, MATH 340	ECE 590 (3) Senior Design Experience I PR: ECE 525, 540	ECE 591 (2) Senior Design Experience II PR: ECE 590
CHM 210 (4) Chemistry I	ECE 241 (3) Introduction to Electrical and Computer Engineering	*PHYS 213 (5) Engineering Physics I KSC-4 PR/CO: MATH 220	PHYS 214 (5) Engineering Physics II PR: PHYS 213 PR/CO: MATH 221	ECE 525 (3) Electronics I PR: ECE 410 or ECE 519	ECE 526 (3) Electronics II PR: ECE 511, 525	ECE 530 (3) Control Systems Design PR: MATH 340, ECE 512	▲ Elective (3) Technical
DEN 160 (1) College of Engineering Orientation	CIS 209 (3) Computer Programming for Engineers PR: MATH 220 ≥ C	STAT 510 (3) Introductory Probability and Statistics I PR: MATH 221	ECE 441 (3) Design of Digital Systems PR: ECE 241	ECE 540 (3) Applied Scientific Computing for Engineers PR: STAT 510 and CIS 209 or CIS 200	ECE 502 (2) Electronics Laboratory PR: ECE 511, PR/CO: ECE 526	● ECE 772 (2) Theory and Techniques of Bioinstrumentation CO: ECE 773	* Elective (3) Social and Behavioral Sciences KSC-5
DEN 161 (1) Engineering Problem Solving PR/CO: MATH 150	* Elective (3) Social and Behavioral Sciences KSC-5	ECE 410 (4) Circuit Theory I PR: MATH 221	ECE 511 (4) Circuit Theory II PR: MATH 340, ECE 410	ECE 557 (4) Electromagnetic Theory I PR: ECE 410, MATH 222, PHYS 214	ECE 581 (3) Energy Conversion I PR: ECE 410 or ECE 519	● ECE 773 (1) Bioinstrumentation Design Laboratory PR: ECE 502 CO: ECE 772	* Elective (3) Institutional KSC-7
*ENGL 100 (3) Expository Writing I KSC-1	*ENGL 200 (3) Expository Writing II KSC-1 PR: ENGL 100			* Elective (3) Arts and Humanities KSC-6	● BME 200 (3) Introduction to Biomedical Engineering	ECE 647 (3) Digital Signal Processing PR: ECE 512	* Elective (3) Institutional KSC-7
*COMM 106 (3) Public Speaking KSC-2						* Elective (3) Arts and Humanities KSC-6	

(16 credit hours)

(16 credit hours)

(16 credit hours)

(16 credit hours)



(16 credit hours)

(14 credit hours)

(15 credit hours)

(14 credit hours)

KEY

 = Prerequisite for another course	PR = Prerequisite requirement	PR/CO = Prerequisite or concurrent requirement	 = Class applies as specialization
* = K-State Core (KSC) course	▲ = See department approved electives	● = Only offered in the semester shown	

Electrical Engineering Curriculum Notes

Students pursuing a B.S. in electrical engineering degree are required to complete one of the subplan options. These options include bioengineering, electronics and communications, and power systems.

For the good and benefit of the student and their future employer, the ECE department enforces a C-prerequisite policy for all courses listed by number in the curriculum and for any in-major technical elective course applied toward the degree. A grade of C or better must be earned in all prerequisites to such a course before enrolling in that course.

Technical Electives

Technical electives must be selected to complete one of the option areas.

See list of option areas and required electives at ece.k-state.edu/academics/undergraduate/electrical-engineering/specialization/.

No more than 12 credit hours of courses with prefix ECE may be transferred to Kansas State University for credit toward a bachelor's degree in either electrical engineering or computer engineering. Further, those courses selected for transfer credit must be equivalent to courses in the list below and must be such that the prerequisites for the listed course are also satisfied. Any courses transferred must be taken from ABET accredited programs: ECE 210, ECE 241, ECE 410, ECE 525, ECE 557, ECE 581.

K-State Core

The K-State Core (KSC) is the university's version of the systemwide general education framework established by the Kansas Board of Regents.

KSC requirement 1 – English (6 hours)

KSC requirement 2 – Communications (3 hours)

KSC requirement 3 – Math and Statistics (3 hours)

KSC requirement 4 – Natural and Physical Sciences (4-5 hours)

KSC requirement 5* – Social and Behavioral Sciences (6 hours)

KSC requirement 6* – Arts and Humanities (6 hours)

KSC requirement 7 – Institutional Electives (6 hours)

To view course lists for each requirement, visit k-state.edu/provost/kstate-core.

**Requires two courses from two different subject areas.*

