

Computer Engineering

121 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 222 (4) Analytic Geometry and Calculus III PR: MATH 221 ≥ C	MATH 340 (4) Elementary Differential Equations PR: MATH 221 ≥ C	ECE 431 (3) Microcontrollers PR: ECE 241, CIS 209 or 200 ≥ C	MATH 510 (3) Discrete Mathematics PR: MATH 221	ECE 590 (3) Senior Design Experience I PR: ECE 525, 540 ≥ C	ECE 591 (2) Senior Design Experience II PR: ECE 590 ≥ C
CIS 116 (1) Introduction to Programming	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 ≥ C	ECE 512 (3) Linear Systems PR: ECE 410, ECE 540, MATH 340 ≥ C	● ECE 542 (3) Computer Networking PR: ECE 241, STAT 510 ≥ C	● ECE 645 (3) Digital Electronics PR: ECE 525, 441 ≥ C
DEN 160 (1) College of Engineering Orientation	CIS 200 (4) Programming Fundamentals PR: CIS 116 ≥ C PR/CO: MATH 205 or 220 ≥ C	CIS 300 (3) Data and Program Structures PR: CIS 200 ≥ C	CIS 308 (1) C Language Laboratory PR: CIS 300 ≥ C	CIS 400 (3) Object-Oriented Design, Implementation and Testing PR: CIS 300 ≥ C	ECE 649 (3) Computer Design I PR: ECE 441 ≥ C	● ECE 643 (3) Computer Engineering Design Lab PR: ECE 441, CIS 209 or 308 ≥ C PR/CO: ECE 649 ≥ C	● CIS 520 (3) Operating Systems I PR: ECE 431, CIS 308, 400 all ≥ C
DEN 161 (1) Engineering Problem Solving PR/CO: MATH 150	*ENGL 200 (3) Expository Writing II KSC-1 PR: ENGL 100	ECE 410 (4) Circuit Theory I PR: MATH 221 ≥ C	ECE 441 (3) Design of Digital Systems PR: ECE 241	ECE 540 (3) Applied Scientific Computing for Engineers PR: STAT 510, CIS 209 or CIS 200 ≥ C	▲ Elective (3) Technical	▲ Elective (3) Technical	* Elective (3) Social and Behavioral Sciences KSC-5
*ENGL 100 (3) Expository Writing I KSC-1			STAT 510 (3) Introductory Probability and Statistics I PR: MATH 221	* Elective (3) Institutional KSC-7	* Elective (3) Arts and Humanities KSC-6	* Elective (3) Arts and Humanities KSC-6	* Elective (3) Institutional KSC-7
*COMM 106 (3) Public Speaking KSC-2							
* Elective (3) Social and Behavioral Sciences KSC-5							
(16 credit hours)	(14 credit hours)	(16 credit hours)	(16 credit hours)	(15 credit hours)	(15 credit hours)	(15 credit hours)	(14 credit hours)

KEY

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

Computer Engineering Curriculum Notes

For the good and benefit of the student and their future employer, the ECE department enforces a C-prerequisite policy for ECE or BME all courses listed by number in the curriculum and for any in-major ECE or BME 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 from the list of accepted courses.

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 listed below transferred must be taken from ABET accredited programs: ECE 241, ECE 410, ECE 525

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.*