

Computer Science

120 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	CIS 300 (3) Data and Program Structures PR: CIS 200 ≥ C	MATH 510 (3) Discrete Mathematics PR: MATH 221	CIS 308 (1) C Language Laboratory PR: CIS 300 ≥ C	STAT 510 (3) Introductory Probability and Statistics I PR: MATH 221	▲ Elective (3) Technical	▲ Elective (3) Technical
CIS 115 (2) Introduction to Computing Science	CIS 200 (4) Programming Fundamentals PR: CIS 116 ≥ C PR/CO: MATH 205 or 220 ≥ C	CIS 301 (3) Logical Foundations of Programming PR: CIS 200 ≥ C	CIS 400 (3) Object-Oriented Design, Implementation and Testing PR: CIS 300 ≥ C	CIS 501 (3) Software Architecture and Design PR: CIS 400	CIS 450 (3) Computer Architecture and Operations PR: ECE 241 ≥ C PR/CO: CIS 308 ≥ C	▲ Elective (3) Technical	▲ Elective (3) Technical
CIS 116 (1) Introduction to Programming	ECE 241 (3) Introduction to Electrical and Computer Engineering	*ENGL 200 (3) Expository Writing II KSC-1 PR: ENGL 100	CIS 415 (3) Ethics and Conduct for Computing Professionals PR: CIS 300 ≥ C	CIS 505 (3) Introduction to Programming Languages PR: CIS 400	CIS 560 (3) Database System Concepts PR: CIS 300/301 ≥ C PR/CO: MATH 510 ≥ C	▲ Elective (3) Math	▲ Elective (3) Upper division
*ENGL 100 (3) Expository Writing I KSC-1	▲ * Elective (4) Natural Science with laboratory KSC-4	▲ Elective (4) Natural Science with laboratory	▲ Elective (3) Unrestricted	* Elective (3) Social and Behavioral Sciences KSC-5	CIS 575 (3) Introduction to Algorithm Analysis PR: CIS 300/301 ≥ C PR: MATH 510 ≥ C	* Elective (3) Arts and Humanities KSC-6	▲ Elective (3) Upper division
* COMM 106 (3) Public Speaking KSC-2			▲ Elective (3) Unrestricted	* Elective (3) Arts and Humanities KSC-6	ENGL 415 (3) Written Communication for Engineers PR: ENGL 200	* Elective (3) Institutional KSC-7	▲ Elective (3) Upper division
* Elective (3) Social and Behavioral Sciences KSC-5				* Elective (3) Institutional KSC-7	OR ENGL 516 (3) Communication for the Sciences PR: ENGL 200		
CIS 015 (0)	CIS 018 (0)	CIS 018 (0)	CIS 018 (0)	CIS 018 (0)	CIS 018 (0)	CIS 018 (0)	CIS 018 (0)
(16 credit hours)	(15 credit hours)	(13 credit hours)	(15 credit hours)	(16 credit hours)	(15 credit hours)	(15 credit hours)	(15 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 Science Curriculum Notes

To graduate with a B.S. in computer science, students must have at least a 2.3 GPA in all classes at the 400 level or above taken for undergraduate credit from the Carl R. Ice College of Engineering at Kansas State University. Course grades that have been removed by the K-State Retake Policy will not apply to this GPA calculation.

All students new to the CS department must complete CIS 015.

Additional information is available at cs.k-state.edu/academics/undergraduate/computer-science.

Technical Electives

Technical electives must be comprised of the following:

- Either CIS 520-Operating Systems I, CIS 525-Introduction to Network Programming, or CIS 625-Concurrent Software Systems.
- A capstone experience consisting of either CIS 598-Computer Science Project, CIS 599 Cybersecurity Project, or the two-semester course consisting of CIS 642-Software Engineering Project I and CIS 643-Software Engineering Project II.
- Additional 500-level or higher CIS courses or other approved computing-related courses to bring the total number of technical elective credits to 12.

Electives

- Math and Natural Science electives must have departmental approval.
- Upper division electives may be any courses at the 300 level or above.
- Students who satisfy all or part of K-State Core Institutional Electives (Requirement #7) with courses that satisfy other degree requirements may use additional unrestricted electives to meet the degree requirement of 120 credit hours.

Communications Overlay

All students must complete at least two courses (6 hours), which may be used as unrestricted electives or, where applicable, K-State Core requirements, from the following list:

- Any K-State Core Communications course (KSC-2) (3)
- COMM 323 Nonverbal Communication (3)
- COMM 326 Group Communication (3)
- MANGT 220 Principles of Management (3)
- THTRE 261 Fundamentals of Acting (3)
- THTRE 265 Fundamentals of Improvisation I, II (3)

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.*