## Cybersecurity

**120 credit hours total**

| YEAR 1 | FALL | MATH 220 (4)  
Analytic Geometry and Calculus I  
KSC-3  
PR/CO: CIS 116  
PR: MATH 220 ≥ C  
PR: CIS 200 ≥ C  
PR: MATH 221 |
| YEAR 2 | FALL | CIS 300 (3)  
Data and Program Structures  
PR: CIS 200 ≥ C  
PR: MATH 220 ≥ C  
PR: MATH 221 |
| YEAR 3 | FALL | CIS 308 (1)  
C Language Laboratory  
PR: CIS 300 ≥ C  
PR: MATH 220 ≥ C  
PR: MATH 221 |
| YEAR 4 | FALL | CIS 015 (0)  
CIS 018 (0)  
CIS 018 (0)  
CIS 018 (0)  
CIS 018 (0)  
CIS 018 (0)  
CIS 018 (0)  
CIS 018 (0)  
CIS 018 (0) |
| SPRING | MATH 221 (4)  
Analytic Geometry and Calculus II  
KSC-4  
PR: MATH 220 ≥ C  
PR: MATH 221 |
| SPRING | MATH 510 (3)  
Discrete Mathematics  
PR: MATH 220 ≥ C  
PR: MATH 221 |
| SPRING | CRIM 550 (3)  
Technocrime, Security and Society  
PR: CIS 300 ≥ C  
PR: MATH 220 ≥ C  
PR: MATH 221 |
| SPRING | PHYS 113 (4)  
General Physics I  
KSC-1  
PR: MATH 220 ≥ C  
PR: MATH 221 |
| SPRING | CIS 301 (3)  
Logical Foundations of Programming  
PR: CIS 200 ≥ C  
PR: CIS 300 ≥ C  
PR: MATH 220 ≥ C  
PR: MATH 221 |
| SPRING | CIS 415 (3)  
Introduction to Programming Languages  
PR: CIS 300 ≥ C  
PR: MATH 220 ≥ C  
PR: MATH 221 |
| SPRING | PHYS 213 (5)  
Engineering Physics I  
KSC-2  
PR: MATH 220 ≥ C  
PR: MATH 221 |
| SPRING | CIS 400 (3)  
Object-Oriented Design, Implementation and Testing  
PR: CIS 300 ≥ C  
PR: MATH 220 ≥ C  
PR: MATH 221 |
| SPRING | ECE 241 (3)  
Introduction to Electrical and Computer Engineering  
KSC-3  
PR: MATH 220 ≥ C  
PR: MATH 221 |
| SPRING | CIS 501 (3)  
Software Architecture and Design  
PR: CIS 300 ≥ C  
PR: MATH 220 ≥ C  
PR: MATH 221 |
| SPRING | ENGL 016 (3)  
Written Communication for Engineers  
PR: ENGL 200 |
| SPRING | PHY 575 (3)  
Introduction to Algorithm Analysis  
KSC-5 |
| SPRING | PHYS 223 (5)  
Physics I, Mechanics and Thermodynamics  
PR: MATH 220 ≥ C  
PR: MATH 221 |
| SPRING | CSCI 510 (3)  
Introductory Probability and Statistics I  
PR: MATH 220 |
| SPRING | ENGL 516 (3)  
Communication for the Sciences  
PR: ENGL 200 |
| SPRING | PHYS 224 (5)  
Physics II, Electromagnetism, and Sound  
PR: MATH 220 ≥ C  
PR: MATH 221 |
| SPRING | ENGL 415 (3)  
Written Communication for Engineers  
PR: ENGL 200 |
| SPRING | PHYS 114 (4)  
General Physics II  
KSC-1  
PR: MATH 220 ≥ C  
PR: MATH 221 |
| SPRING | CIS 553 (3)  
Fundamentals of Cryptography  
PR: CIS 300 ≥ C  
PR: MATH 220 ≥ C  
PR: MATH 221 |
| SPRING | COMM 106 (3)  
Public Speaking  
KSC-2 |
| SPRING | CIS 575 (3)  
Introduction to Algorithm Analysis  
PR: CIS 300 ≥ C  
PR: MATH 220 ≥ C  
PR: MATH 221 |
| SPRING | PHYS 114 (4)  
General Physics II  
PR: MATH 220 ≥ C  
PR: MATH 221 |
| SPRING | PHYS 214 (5)  
Engineering Physics II  
PR: MATH 220 ≥ C  
PR: MATH 221 |
| SPRING | PHYS 215 (5)  
Engineering Physics II  
PR: MATH 220 ≥ C  
PR: MATH 221 |
| SPRING | STAT 510 (3)  
Introductory Probability and Statistics I  
PR: MATH 220 |
| SPRING | PHYS 516 (3)  
Communication for the Sciences  
PR: ENGL 200 |
| SPRING | PHYS 223 (5)  
Physics I, Mechanics and Thermodynamics  
PR: MATH 220 ≥ C  
PR: MATH 221 |
| SPRING | CIS 551 (3)  
Fundamentals of Computer and Information Security  
PR: CIS 450 or MATH 510 |
| SPRING | CIS 559 (3)  
Cybersecurity Project  
PR: CIS 551 ≥ C |
| SPRING | CIS 565 (3)  
Database System Concepts  
PR: CIS 550 or CIS 551 |
| SPRING | CIS 655 (3)  
Security and Reliability of Computing Systems  
PR: CIS 550 or CIS 551 |
| SPRING | CIS 755 (3)  
Systems Security  
PR: CIS 550 or CIS 551 |
| SPRING | ENGL 200 (3)  
Expository Writing II |
| SPRING | CIS 525 (3)  
Introduction to Network Programming  
PR: CIS 300,308 ≥ C  
PR: CIS 550 |
| SPRING | CIS 560 (3)  
Database System Concepts  
PR: CIS 550 |
| SPRING | CIS 570 (3)  
Math  
PR: CIS 550 |
| SPRING | CIS 658 (3)  
Security and Reliability of Computing Systems  
PR: CIS 550 or CIS 551 |
| SPRING | CIS 575 (3)  
Introduction to Algorithm Analysis  
PR: CIS 300 ≥ C  
PR: MATH 220 ≥ C  
PR: MATH 221 |
| SPRING | CIS 755 (3)  
Systems Security  
PR: CIS 550 or CIS 551 |
| SPRING | CIS 599 (3)  
Cybersecurity Project  
PR: CIS 551 ≥ C |

### Key
- **PR/CO** = Prerequisite or concurrent requirement
- **KSC** = K-State Core (KSC) course
- **PR** = Prerequisite requirement
- **=** = Only offered in the semester shown
- **PR** = Prerequisite for another course

Degree map is for advising purposes only. Students are responsible for complying with University Catalog requirements.
To graduate with a B.S. in cybersecurity, 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/cybersecurity.

Electives
The Math elective must have departmental approval.

Students who satisfy all or part of K-State Core Natural and Physical Sciences electives (Requirement #4) and/or 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.