# Computer Science + Cyber Security
(120 + 15 Hours)

**Effective S2020**

## Freshman
- CIS 115 (3) Intro. Comp. Sci
- CIS 200 (4) Programming Fund. PR/COR: MATH 205 or 220 PR: CIS 111 or CIS 115 or ECE 241
- CIS 300 (3) Data & Pgm Structures PR: CIS 200 PR: MATH 205 or 220
- CIS 400 (3) Object-Oriented Design, Imp., & Testing PR: CIS 300
- ECON 110 (3) Princ. Of Mac. Econ PR: MATH 220
- ECE 241 (3) Intro. Com. Engg PR: MATH 220
- CIS 301 (3) Log. Found of Prog. PR: CIS 200
- Communications Elective

## Sophomore
- ENGL 100 (3) Writing 1
- Natural Science Choose Seq. 1 out of 2
- Natural Science Choose Seq. 2 out of 2
- Math Elective
- MATH 220 (4) Anal. Geo. & Calc. 1 PR: MATH 220
- MATH 221 (3) Anal. Geo. & Calc. 2 PR: MATH 220
- ENGL 200 (3) Writing 2 PR: ENGL 100
- Math 510 (3) Discrete Math PR: MATH 221
- Unrestricted (3)
- Human/Soc Sci. Elective (3)
- Human/Soc Sci. Elective (3)
- Human/Soc Sci. Elective (3)
- Human/Soc Sci. Elective (3)
- ENGL 516 (3)/ENGL 415 (3) Writing Comm. for Sci./Engg. PR: ENGL 200
- Unrestricted (3/4)

## Junior
- CIS 308 (1) C/C++, Lang., Lab PR: CIS 300
- CIS 305 (3) Comp. Arch & Ops PR: ECE 241 PR/COR: CIS 308
- CIS 415 (3) Ethics & Comp Tech (F) PR: CIS 300
- CIS 501 (3) SW Arch. & Design PR: CIS 400
- CIS 507 (3) Intro to Alg. Analo. PR: CIS 300 and 301 PR: MATH 510
- Unrestricted (3)
- Math/Natural Sci. Elective *300 Level & Above

## Senior
- CIS 505 (3) Introduction to Programming Languages
- CIS 599 (3) Cybersecurity Project
- Tech Elective (3)
- Tech Elective (3)
- Unrestricted (3)
- Cybersecurity Remaining Courses (3)

## 5th Semester
- CIS 553 (3) Fundamentals of Cryptography
- CIS 551 (3) Fundamentals of Computer and Information Security

---

**Advisor:** ___________________________  **Student ID:** ___________________________

*This course is part of the pre-professional program*

*CIS 018 required every semester*
Rules for Mathematics and Science Electives

Math/Science Electives (17 Hours)

1. One of the following 2-semester sequences must be included:
   - BIOL 198 and 201 (9 Hours)
   - CHM 210 and 230 (8 Hours)
   - PHYS 213 and 214 (10 Hours)
   - PHYS 223 and 224 (10 Hours)

2. One of the following mathematics courses must be included:
   - MATH 222 Analytic Geometry and Calculus III (4)
   - MATH 340 Elementary Differential Equations (4)
   - MATH 506 Introduction to Number Theory (3)
   - MATH 511 Introduction to Algebraic Systems (3)
   - MATH 512 Introduction to Modern Algebra (3)
   - MATH 515 Introduction to Linear Algebra (3)
   - MATH 551 Applied Matrix Theory (3)
   - MATH 572 Foundations of Geometry (3)
   - MATH 633 Advanced Calculus I (3)
   - PHYS 113 General Physics (4)
   - PHYS 213 Engineering Physics I (5)
   - PHYS 223 Physics I, Mechanics, & Thermodynamics (5)
   - PHYS 114 General Physics II (4)
   - PHYS 214 Engineering Physics II (5)
   - PHYS 224 Physics II, Electromagnetism, and Sound (5)
   - PHYS 325 Physics III, Realiity, and Quantum Physics (4)
   - STAT 511 Introductory Probability and Statistics II (3)

3. All remaining hours, choose from the following:
   - BIOT 625 Introductory Organic & Biochemistry (5)
   - BIOL 521 General Biochemistry (3)
   - BIOL 198 Principles of Biology (4)
   - BIOL 201 Organismic Biology (5)
   - BIOL 450 Modern Genetics (4)
   - BIOL 455 General Microbiology (4)
   - CHM 210 Chemistry I (4)
   - CHM 230 Chemistry II (4)
   - CHM 350 General Organic Chemistry (3)
   - CHM 531 Organic Chemistry I (3)
   - CHM 371 Chemical Analysis (4)
   - CHM 550 Organic Chemistry II (3)
   - GEOL 100 Earth in Action (3)
   - GEOL 102 Earth in Time (3)
   - GEOL 103 Geology Laboratory (1)
   - GEOL 502 Mineralogy (3)
   - MATH 222 Analytic Geometry and Calculus III (4)
   - MATH 340 Elementary Differential Equations (4)
   - MATH 506 Introduction to Number Theory (3)
   - MATH 511 Introduction to Algebraic Systems (3)
   - MATH 512 Introduction to Modern Algebra (3)
   - MATH 515 Introduction to Linear Algebra (3)
   - MATH 551 Applied Matrix Theory (3)
   - MATH 572 Foundations of Geometry (3)
   - MATH 633 Advanced Calculus I (3)
   - PHYS 113 General Physics (4)
   - PHYS 213 Engineering Physics I (5)
   - PHYS 223 Physics I, Mechanics, & Thermodynamics (5)
   - PHYS 114 General Physics II (4)
   - PHYS 214 Engineering Physics II (5)
   - PHYS 224 Physics II, Electromagnetism, and Sound (5)
   - PHYS 325 Physics III, Realiity, and Quantum Physics (4)
   - STAT 511 Introductory Probability and Statistics II (3)

Humanities/Social Science Electives + K-State 8

Suggestions:
- AMETH 160 Intro. to American Ethnic Studies (3)
- AMETH 461 Trans-formative Thought (3)
- COMM 420 Gender Communication (3)
- GEOG 310 Geography of Kansas (3)
- GWSS 105 Intro. to Gender, Women, and Sexualis Studes (3)
- LEAD 212 Intro. to Leadership Concepts (3)
- MUSIC 420 History of Jazz (3)
- SOCIO 211 Intro. to Sociology (3)
- THTRE 665 Drama Therapy with Special Populations (3)

Suggestions:
- ARCH 301 Appreciation of Architecture (3)
- COMM 323 Nonverbal Communication (3)
- ENGL 270 American Literature (3)
- GWSS350 Gender in American Film (3)
- GWSS 550 Women and Popular Culture (3)
- MUSIC 170 History of Rock and Roll (3)

Suggestions:
- AMETH 160 Intro. to American Ethnic Studies (3)
- ARCH 301 Appreciation of Architecture (3)
- GEOG 310 Geography of Kansas (3)
- HIST 151 History in the U.S. to 1877 (3)
- HIST 152 History in the U.S. since 1877 (3)
- POLSC 115 U.S. Politics (3)
- THTRE 270 Intro. to Theatre (3)