

**Student ID:** \_\_\_\_\_  
**Student Name:** \_\_\_\_\_  
**Adviser Name:** \_\_\_\_\_

**Catalog: 2023-2024 Undergraduate Catalog**  
**Program: Computer Science, B.S.**  
**Minimum Credits Required:** \_\_\_\_\_

## Computer Science, B.S.

Students in the 120 credit hour Computer Science major will participate in a learning experience designed to give maximum choices as they plan for a successful future. Students will gain a foundation in computer science knowledge and skills with a collection of major core courses while having the opportunity to explore pathways with elective courses.

For students, opportunities in this major include:

- Academic coursework emphasizing current concepts and skills.
- Attain problem-solving and critical-thinking skills with computer technologies.
- Practical, real-life experience similar to experiences in the workplace.
- Design, create, implement, test, and cutover to new software systems.
- After graduating with this major, students should be successful in a variety of information technology and computer-related jobs and could continue on to graduate studies to earn Master's and Doctorate degrees.

## Core Curriculum: 38 - 51 credit hours

Please review the Core Curriculum page for course options.

## Required Core Courses

Students in the Computer Science degree must take the following liberal arts courses regardless of whether the core is otherwise met:

### Liberal Arts, Mathematics

- MA 120 College Algebra (3) or
- MA 125 Precalculus (5) or
- MA 241 Calculus & Analytic Geometry I (5)

## Core Designations

Student in the Computer Science degree will meet 3-credit hours of Community Engagement with the following course:

### Community Engagement

- CS 495 Internship (3) or
- SF 495 Internship (3)

## Computer Science Major Requirements (35-38 credit hours)

Course Name	Term Taken	Grade	Gen Ed
CS 116 - Problem Solving with Algorithms (2)			
CS 120 - Introduction to CS I (4)			
CS 195 - Introduction to Computer Careers (1)			
CS 222 - Data Structures (4)			
CS 313 - Object-Oriented Programming in C# (3)			
CS 314 - Object-Oriented Programming in Java (3)			
CS 315 - Operating Systems (3)			
CS 321 - Networking (3)			
CS 346 - Foundations of Computing (3)			
CS 365 - Program Language Systems (3)			
CS 499 - Computer Science Capstone (3)			
EN 112 - Composition II: Rhetorical Argument (3) (Unless taken for Core Credit)			
MA 230 - Discrete Mathematics (3)			

## Choose 12 credit hours from the following:

At least 6 course hours must be at the 300 level.

Course Name	Term Taken	Grade	Gen Ed
CS 170 - Web Page Design (3)			
CS 180 - Special Topics (1-3)			
CS 215 - Into to Data Analysis using R (3)			
CS 319 - Web Page Programming (3)			
CS 345 - Computer Organization & Architecture (3)			
CS 371 - Android App Development (3)			

CS 372 - IOS App Development (3)			
CS 373 - Introduction to Game Development (3)			
CS 380 - Advanced Special Topics (1-3)			
CY 301 - Intro to Cybersecurity (3)			
CY 305 - Network Security (3)			
CY 310 - Ethical Hacking (3)			
CY 320 - Wireless & Mobile Security (3)			
SF 201 - Introduction to Software Engineering (3)			
SF 340 - Database Management (3)			
SF 350 - Systems Analysis & Design (3)			

## Electives (minimum of 19 credit hours)

### Note:

Students can use elective hours to create a specific emphasis of study. However, please note that:

- If a student would like to gain a cybersecurity minor, a minimum of 9 hours must be unique between the major and the minor.
- If interested in continuing in graduate studies, a math minor or additional courses of math and/or physics courses are highly recommended.

## Technology Requirement

Computer competency will be demonstrated by successful completion of CS 499/ SF 499 with a “C” or better within the major.

## Program Requirement

The candidate for the Bachelor of Science degree in Computer Science must complete all general degree requirements under Core Curriculum and complete with a grade of “C” or better all Computer Science, Software Engineering, and Mathematics courses taken.

## Outcomes

Computer Science majors will be expected to meet the following program outcomes.

### Outcome 1.

The student will acquire appropriate foundational programming skills. (CS 116, CS 120, CS 222, CS 313, CS 314)

### Outcome 2.

The student will design and implement advanced computer programs to solve problems. (CS 222, CS 313, CS 314, CS 499)

### Outcome 3.

The student will read and communicate computer ideas orally and in writing. (CS 116, CS 120, CS 499)

### Outcome 4.

The student will write papers requiring research into the computer discipline. (CS 499)

## Assessment

The outcomes for the Computer Science major are assessed through a combination of written and performance examinations, written and performance assignments, practicum and internship supervisor evaluations, and a completed capstone project. CS 499 requires a senior capstone project to be designed, completed, and then presented to Computer Science faculty.

### Notes: