

Computer Science

Bachelor of Science—Three-Year Plan



Starting Fall EVEN Years

Semester 1 (Fall)

Course	Credits	Grade	✓
ENGL 101: Composition & Rhetoric I	3	C*	<input type="checkbox"/>
MATH 103: College Algebra	3		<input type="checkbox"/>
CS 151: Introduction to Computer Science	3		<input type="checkbox"/>
General Education Course	3		<input type="checkbox"/>
General Education Course	2-3		<input type="checkbox"/>
UNIV 100: CU Foundations	1		<input type="checkbox"/>
	15-16		

Semester 2 (Spring)

Course	Credits	Grade	✓
CS 232: Introduction to Computer Security	3		<input type="checkbox"/>
CS 252: Data Structures & Object Oriented Programming	3		<input type="checkbox"/>
CS 282: Database and Information Management	3		<input type="checkbox"/>
MATH 104: College Trigonometry	3		<input type="checkbox"/>
MATH 219: Discrete Mathematics	3		<input type="checkbox"/>
	15		

Semester 3 & 4 Summer

Course	Credits	Grade	✓
ENGL 102: Composition & Rhetoric II	3	C*	<input type="checkbox"/>
General Education Course	3		<input type="checkbox"/>
General Education Course	3		<input type="checkbox"/>
General Education Course	3		<input type="checkbox"/>
	12		

Semester 5 (Fall)

Course	Credits	Grade	✓
CS 253: Software Engineering	3		<input type="checkbox"/>
CS 261: Introduction to Intelligent Systems	3		<input type="checkbox"/>
MATH 253: Calculus with Analytic Geometry I	4		<input type="checkbox"/>
CS 442: Analysis of Algorithms	3		<input type="checkbox"/>
Concentration Course	3		<input type="checkbox"/>
Concentration Course	3		<input type="checkbox"/>
	19		



The Bachelor of Science in Computer Science curriculum

is designed to give students a thorough understanding of computers; the physics of the hardware; the underlying mathematical principles; and the creation of software solutions. The core prepares students for a wide variety of careers and graduate school, but students can also choose one of three concentrations in which to specialize.

CONCENTRATIONS

Each of the elective CS concentrations is designed for different career interests:

Software Development

Cybersecurity

Analysis, Simulation, and Modeling



MILESTONE COURSES

Courses marked as *Milestone Courses* are crucial for staying on track to complete your degree in four years. Take them in the recommended semester to stay on track! Sections with a recommended minimum grade is the grade you need to earn to have the best chance for success! Grades marked with an asterisk (*) are required to pass.

Helpful Hints

- CS 151 is prerequisite to all other computer science courses.
- Only offered Fall semester, every year: CS 272.
- Only offered Spring semester, every year: CS 252, MATH 219, PHYS 201.
- Only offered Spring semester, every other year: CS 221, CS 357.
- Semester 2—Students choosing the Cyber Security concentration should take CS 232 instead of CS 282. Offered every Spring semester.
- PHYS 201 and 202 strongly recommended. PHYS 101 and 102 is an option.

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Semester 6 (Spring)

Course	Credits	Grade	✓
CS 421: Operating Systems	3		<input type="checkbox"/>
*PHYS 201: University Physics with Calculus 1	4		<input type="checkbox"/>
Concentration Course <i>or</i> Elective	3		<input type="checkbox"/>
Math Option <i>or</i> Elective	3-4		<input type="checkbox"/>
General Education Course	3		<input type="checkbox"/>

16-17

Semester 7 & 8 (Summer)

Course	Credits	Grade	✓
General Education Course	3		<input type="checkbox"/>
General Education Course	3		<input type="checkbox"/>
Elective	3		<input type="checkbox"/>
Elective	3		<input type="checkbox"/>

12

Semester 9 (Fall)

Course	Credits	Grade	✓
*PHYS 202: University Physics with Calculus 2	4		<input type="checkbox"/>
PHYS 319: Digital Electronics <i>or</i> PHYS 325 Computational Physics	3		<input type="checkbox"/>
CS 272: Human Centered Design	3		<input type="checkbox"/>
CS 325: Computer Organization and Hardware	3		<input type="checkbox"/>
CS 456: Capstone 1	2		<input type="checkbox"/>
CS Concentration Course <i>or</i> Elective	3		<input type="checkbox"/>

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Semester 10 (Spring)

Course	Credits	Grade	✓
CS 221: Computing Networking	3		<input type="checkbox"/>
CS 357: Parallel and Distributed Computing	3		<input type="checkbox"/>
CS 457: Capstone 2	2		<input type="checkbox"/>
Concentration Course <i>or</i> MATH 254 <i>or</i> MATH 321	3-4		<input type="checkbox"/>
Science Elective	3-4		<input type="checkbox"/>

14-16



Advising

When you choose to pursue this degree, you will be assigned an advisor with expertise in the field of computer science. This advisor and the CU Rise director will help you with course selection, career planning, resume building, and help you with tracking your path to degree completion.

CAREERS

With a degree in Computer Science, you will be trained for careers such as: Software Developer; Software Engineer; Computer Programmer; Information Security Analyst; Computer Network Architect.

STUDENT ORGANIZATIONS

Hopper-Turing Society

COMPLEMENTARY MINORS

CS pairs well with most minors. Consult with your Academic Advisor to determine the best option for you.

Helpful Hints

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