

Computer Science

Bachelor of Science

Semester 1

Course	Credits	Grade	✓
ENGL 101: Composition & Rhetoric I	3	C*	<input type="checkbox"/>
MATH 103: College Algebra or MATH 107: Precalculus	3-4		<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"/>

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Semester 2

Course	Credits	Grade	✓
ENGL 102: Composition & Rhetoric II	3	C*	<input type="checkbox"/>
CS 252: Data Structures & Object Oriented	3		<input type="checkbox"/>
CS 282: Database and Information Manage-	3		<input type="checkbox"/>
MATH 104: College Trigonometry (If took MATH 107, take a CS Concentration Course)	3		<input type="checkbox"/>
General Education Course	3		<input type="checkbox"/>

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Semester 3

Course	Credits	Grade	✓
CS 272: Human Centered Design	3		<input type="checkbox"/>
CS Concentration Course	3		<input type="checkbox"/>
MATH 253: Calculus with Analytic Geometry I	4		<input type="checkbox"/>
General Education Course	3		<input type="checkbox"/>
General Education Course	3		<input type="checkbox"/>

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Semester 4

Course	Credits	Grade	✓
CS 221: Computer Networking	3		<input type="checkbox"/>
CS 357: Parallel and Distributed Computing	3		<input type="checkbox"/>
MATH 219: Discrete Mathematics	3		<input type="checkbox"/>
*PHYS 201: University Physics with Calculus 1	4		<input type="checkbox"/>
General Education Course	3		<input type="checkbox"/>

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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! If you see a recommended minimum grade, this is the grade you need to earn to have the best chance for success in this degree! 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 recommend-

Semester 5

Course	Credits	Grade	✓
CS 253: Software Engineering	3		<input type="checkbox"/>
CS 325: Computer Organization and Hardware	3		<input type="checkbox"/>
*PHYS 202: University Physics with Calculus 2	4		<input type="checkbox"/>
Elective or Concentration Course	3		<input type="checkbox"/>
General Education Course	3		<input type="checkbox"/>

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Semester 6

Course	Credits	Grade	✓
CS 421: Operating Systems	3		<input type="checkbox"/>
CS Concentration Course	3		<input type="checkbox"/>
Elective or Concentration Course	3		<input type="checkbox"/>
MATH 254: Calculus with Analytic Geometry or MATH 321: Applied Linear Algebra	3-4		<input type="checkbox"/>
General Education Course	3		<input type="checkbox"/>

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Semester 7

Course	Credits	Grade	✓
CS 261: Introduction to Intelligent Systems	3		<input type="checkbox"/>
CS 442: Analysis of Algorithms	3		<input type="checkbox"/>
CS 456: Capstone 1	2		<input type="checkbox"/>
PHYS 319: Digital Electronics	2		<input type="checkbox"/>
General Education Course	3-4		<input type="checkbox"/>

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Semester 8

Course	Credits	Grade	✓
CS 232: Introduction to Computer Security	3		<input type="checkbox"/>
CS 457: Capstone 2	2		<input type="checkbox"/>
Elective or Concentration Course	3		<input type="checkbox"/>
Elective or Concentration Course	3		<input type="checkbox"/>
CS or MATH course	3		<input type="checkbox"/>

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ADVISING

When you choose to pursue this degree, you will be assigned an advisor who is an expert in the field of Computer Science. This advisor can 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.

The **Analysis, Simulation, and Modeling** concentration is ideal for those who want to minor or double major in a science.



CAPSTONE

The Computer Science degree culminates in a Capstone Project. Students will take CS 456 and 457 in their senior year to fulfill this requirement.

Helpful Hints

- Only offered Fall semester, every year: CS 261, CS 325, PHYS 202.
- Only offered Fall semester, every other year: CS 253, CS 442.
- Only offered Spring semester, every year: CS 232.
- Only offered Spring semester, every other year: CS 421.
- Semester 7—PHYS 325 may be offered instead of PHYS 319.
- Semester 8—Students choosing the Cyber Security concentration should take CS 282 instead of CS 232. Offered every Spring semester.