Computer Science

Bachelor of Science

CONCORD U

Semester 1

Course	Credits	Grade	✔
ENGL 101: Composition & Rhetoric I	3	C*	☐
MATH 103: College Algebra or MATH 107: Precalculus	3-4		☐
CS 151: Introduction to Computer Science	3		☐
General Education Course	3		☐
General Education Course	2-3		☐
UNIV 100: CU Foundations	1		☐

15-17

Semester 2

Course	Credits	Grade	✔
ENGL 102: Composition & Rhetoric II	3	C*	☐
CS 252: Data Structures & Object Oriented Programming	3		☐
CS 282: Database and Information Management	3		☐
MATH 104: College Trigonometry (If took MATH 107, take a CS Concentration Course)	3		☐
General Education Course	3		☐

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Semester 3

Course	Credits	Grade	✔
CS 272: Human Centered Design	3		☐
CS Concentration Course	3		☐
MATH 253: Calculus with Analytic Geometry I	4		☐
General Education Course	3		☐
General Education Course	3		☐

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Semester 4

Course	Credits	Grade	✔
CS 221: Computer Networking	3		☐
CS 357: Parallel and Distributed Computing	3		☐
MATH 219: Discrete Mathematics	3		☐
***PHYS 201: University Physics with Calculus 1**	4		☐
General Education Course	3		☐

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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-

Computer Science, B.S.

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Semester 5

Course	Credits	Grade	✔
CS 253: Software Engineering	3		☐
CS 325: Computer Organization and Hardware	3		☐
***PHYS 202: University Physics with Calculus 2**	4		☐
Elective or Concentration Course	3		☐
General Education Course	3		☐
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Semester 6

Course	Credits	Grade	✔
CS 421: Operating Systems	3		☐
CS Concentration Course	3		☐
Elective or Concentration Course	3		☐
MATH 254: Calculus with Analytic Geometry or **MATH 321: Applied Linear Algebra**	**3-4**		☐
General Education Course	3		☐
	15-16		

Semester 7

Course	Credits	Grade	✔
CS 261: Introduction to Intelligent Systems	3		☐
CS 442: Analysis of Algorithms	3		☐
CS 456: Capstone 1	2		☐
PHYS 319: Digital Electronics	2		☐
General Education Course	3-4		☐
	13-14		

Semester 8

Course	Credits	Grade	✔
CS 232: Introduction to Computer Security	3		☐
CS 457: Capstone 2	2		☐
Elective or Concentration Course	3		☐
Elective or Concentration Course	3		☐
CS or MATH course	3		☐
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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.