

**B.A. Computer Science (CS 28): Major Checklist, Fall 2015**

Completed	<b>Lower Division (48 units)</b>
	<b>Intro to Computer Science</b>
	CSE 8B/11, Introduction To Computer Science: Java
	<b>Lower-Division Computer Science</b>
	CSE 12, Basic Data Structures and Object-Oriented Programming
	CSE 15L (2 units), Software Tools and Technique Laboratory
	CSE 20 or Math 15A, Introduction to Discrete Mathematics
	CSE 21 or Math 15B, Mathematics for Algorithms and Systems
	CSE 30, Computer Organization & Systems Programming
	Lower-Division Elective (2 units from): CSE 3, CSE 4GS, CSE 5A, CSE 6GS, CSE 7, CSE 8A, MAE 8, MAE 9, COGS 10, COGS 18, ECE 15, NANO 15, CENG 15, CSE 80, CSE 86, CSE 90, CSE 91, CSE 99 or CSE upper-division course
	<b>Mathematics</b>
	Math 20A, Calculus for Science and Engineering
	Math 20B, Calculus for Science and Engineering
	Math 20C, Calculus and Analytical Geometry for Science and Engineering
	Math 20F, Linear Algebra
	<b>General Science:</b> Any two courses chosen from the following list:
	Phys 2A, Mechanics, Phys 2B Electricity and Magnetism, Phys 4A Mechanics, Phys 4B Mechanics, Fluids, Waves and Heat, Chem 6A or Chem 6AH General Chemistry I, Chem 6B or Chem 6BH General Chemistry II, BILD 1 The Cell, BILD 2 Multicellular Life, BILD 3 Organismic and Evolutionary Biology, and BICD 100 Genetics.
Completed	<b>Upper Division (68 units)</b>
	<b>Upper-Division (Core) Computer Science</b>
	CSE 100, Advanced Data Structures
	CSE 101, Design and Analysis of Algorithms
	CSE 105, Theory of Computability
	CSE 110, Software Engineering
	CSE 120, Principles of Computer Operating Systems
	CSE 130, Programming Languages: Principles and Paradigms
	CSE 131, Compiler Construction
	CSE 140, Components and Design Techniques for Digital Systems
	CSE 140L (2 units), Digital Systems Laboratory
	CSE 141, Introduction to Computer Architecture
	CSE 141L (2 units), Project in Computer Architecture
	<b>Upper-Division Electives</b>
	CSE Elective
	CSE Elective
	CSE Elective
	CSE Elective
	CSE Elective
	CSE Elective (may also be from approved list of Technical Electives)
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**ALL major requirements must be taken for letter grade with the exceptions of: CSE 91, CSE 197, CSE 198, and CSE 199.**