B.S. Computer Science/Bioinformatics (CS 27): Major Checklist

Completed	***Lower Division***
	Mathematics
	Math 20A, Calculus for Science and Engineering
	Math 20B, Calculus for Science and Engineering
	Math 20C, Calculus for Analytical Geometry for Science and Engineering
	Math 18, Linear Algebra
	Chemistry/Chemistry Lab
	Chem 6A, General Chemistry I
	Chem 6B, General Chemistry II
	Organic Chemistry: CHEM 40A, Organic Chemistry I
	Biology
	BILD 1, The Cell
	BILD 3, Organismic and Evolutionary Biology
	BILD 4, Introductory Biology Lab
	Computer Programming
	CSE 8B/CSE 11, Introduction to Computer Science: Java
	CSE 12, Basic Data Structures and Object-Oriented Programming
	CSE 15L, Software Tools and Techniques Laboratory
	CSE 21, Mathematics for Algorithms and Systems
	CSE 30, Computer Organization and Systems Programming
	Physics
	Phys 2A, Physics- Mechanics
Completed	***Upper Division***
	Computer Science
	CSE 100, Advanced Data Structures
	CSE 101, Design and Analysis of Algorithms
	Biochemistry: CHEM 114A, Biochemical Structure and Function **or** BIBC 102, Metabolic Biochemistry
	Genetics: BICD 100
	Molecular Biology: BIMM 100
	Recombinant DNA Techniques: BIMM 101
	Bioinformatics
	CSE 181 **or** BIMM 181 **or** BENG 181, Molecular Sequence Analysis
	CSE 182 **or** BIMM 182 **or** BENG 182 **or** CHEM 182, Biological Databases
	BENG 183, Applied Genomic Technologies
	CSE 185, Bioinformatics Laboratory (Advanced) (Previously BIMM 185)
	Math 186, Introduction to Probability and Statistics for Bioinformatics
	Technical Electives (6 Required)
	*Group 1(4 units required): CSE 110, CSE 130, CSE 131
	*Group 2 (8 units required): CSE 105, CSE 150, CSE 151, CSE 158; Math 184A; COGS 185
	*Group 3 (4 units required): CSE 132A, CSE 132B, CSE 134, CSE 135
	*Group 4 (8 units required): Additional electives chosen from 4-unit upper-division CSE courses; ENG 100D, ENG 100L. A maximum of 4 units of P/NP coursework may count, including CSE 197, CSE 198, CSE 199

ALL major requirements must be taken for *letter* grade with the exceptions of: CSE 91, CSE 197, CSE 198, and CSE 199.

***CS27 majors may take CSE electives outside of the courses listed in the above groups. Contact a CSE advisor for additional information**

Updated: September 2018